The OIL WEEKLY

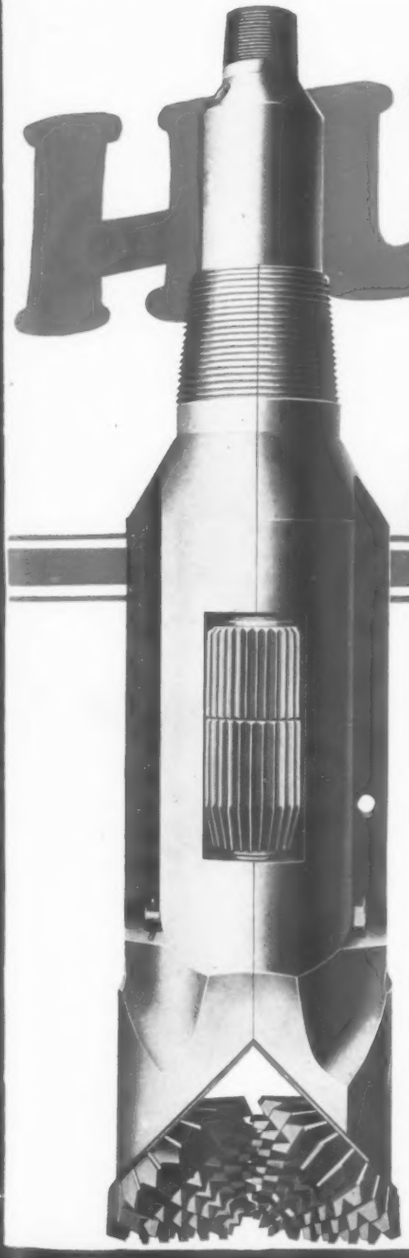
10¢ A COPY

Exclusively Devoted To The Production and Transportation of Oil and Gas

September 14, 1928 **Volume 50. No. 13**

HUGHES

SIMPLEX ROCK BIT CONES



Are the result of more than 18 years of constant laboratory research and field experience—as evidenced by their superior performance throughout the Rotary Fields of the world.

Sold by Supply Stores Everywhere

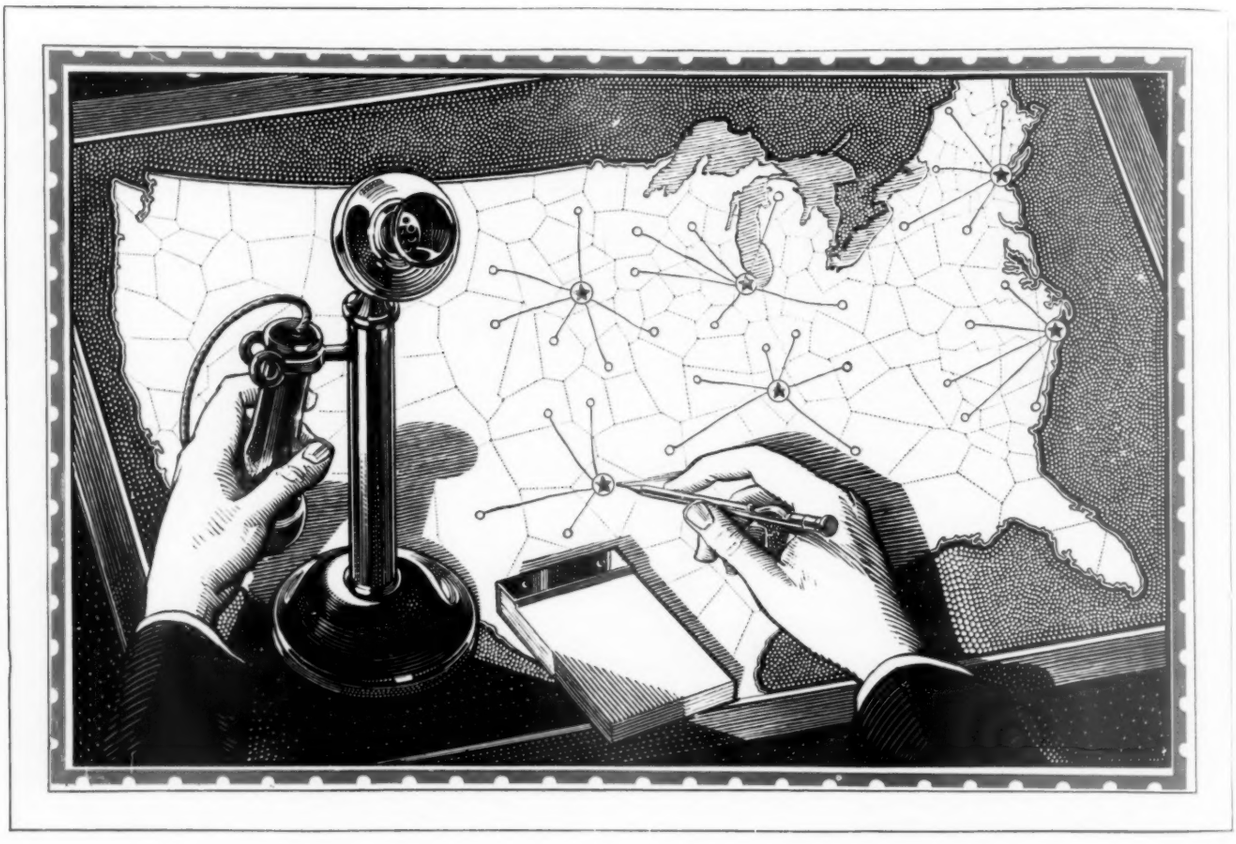
HUGHES TOOL COMPANY

Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.

Main Office and Plant
HOUSTON, TEXAS

Export Office
Woolworth Bldg.,
New York City

This National key town map Free to Anyone interested in cutting Costs



An Advertisement for Bell Long Distance Telephone Service

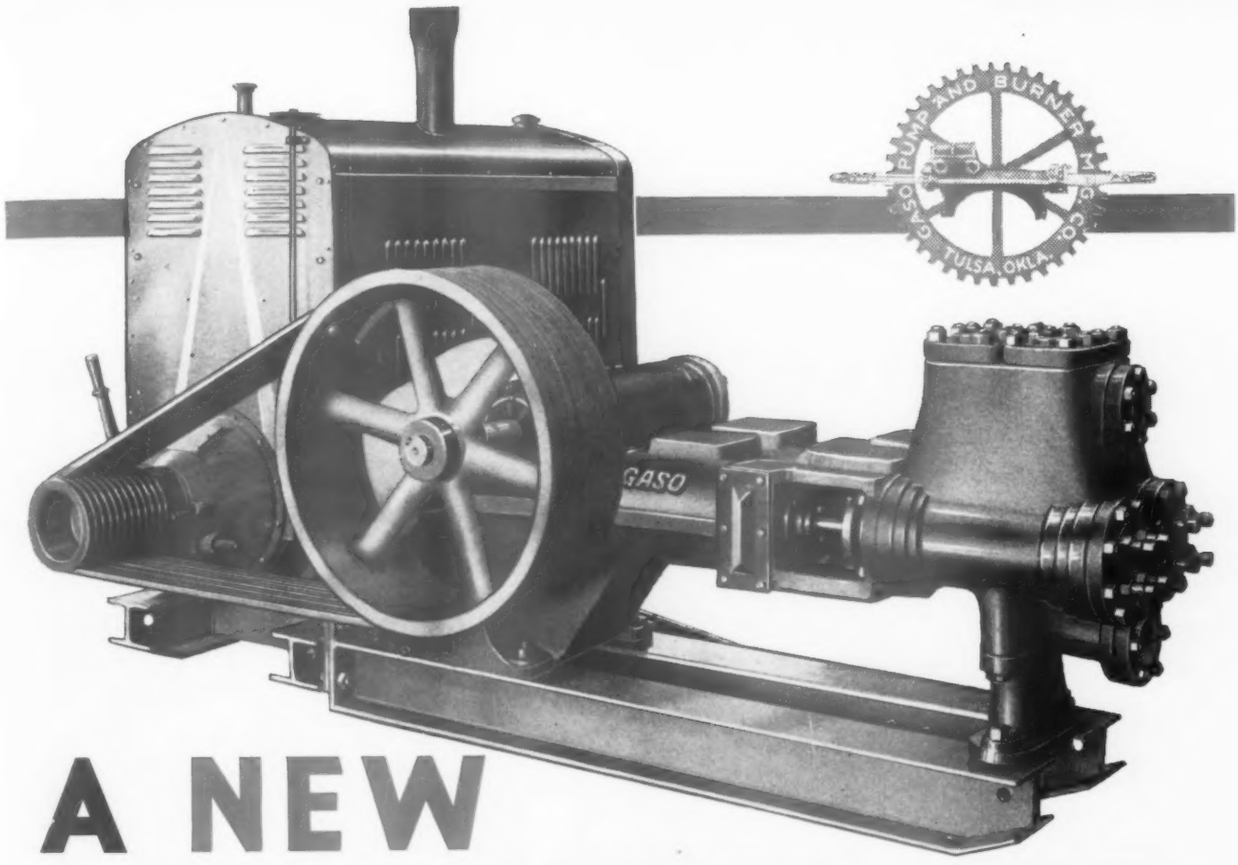
To LOWER distribution costs, business is turning to the key town method of buying and selling by telephone. By this plan each representative can "travel" farther, reach more people, buy and sell more—and cut expenses.

The national key town map, showing key towns and their calling areas, is now ready. This and regional maps may be obtained at any Bell Telephone business office. They are free.

Key town plans work like this. The sales or purchasing representative goes to the key towns in person. From each he makes his contacts by telephone with customers and prospects in that area. Expensive visits in person are made less often; yet by telephone more frequent and up-to-the-minute relations are maintained.

Related telephone services supplement the key town plan. Classified business telephone directories furnish lists of prospects, sequence calling lists save hours of time, the Bell System credit plan makes it possible to have bills for calls sent to home offices—avoiding the carrying of cash and helping in keeping records of contacts. Thus, Long Distance can be custom-made to fit your selling or buying problems—to increase business, yet lower costs. A call to your Bell Telephone business office will bring a copy of the national key town map to you. . . . . *Number, please.*

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.



A NEW GASO PUMPING UNIT

for Semi-Permanent and Permanent Pipe Line Stations

The need of a portable pumping unit especially adapted for small semi-permanent and permanent pipe line stations—led us to design this new GASO unit.

The pump is especially rugged, efficient and durable. It is our GASO No. 710 Enclosed Type, Self-Lubricating Power Pump, for working pressures up to 1400 lbs., with interchangeable liner fluid end taking liners from 2½″ to 7″ diameter and giving capacities from 38 gallons per minute at 1400 pounds pressure up to 351 gallons at 300 pounds pressure.

Every working part of this pump is protected from dust by the oil-tight case, and runs in an oil bath. Pinion shaft bearings are TIMKEN TAPER ROLLER BEARINGS, and main bearings are lined with genuine babbitt, both being easily adjustable to wear. Open hearth steel continuous tooth herringbone gears, center driven, running in oil, insure highest efficiency and quietness.

The power plant is a BUDA 85 H.P. 4-cylinder engine, and drive is the highly efficient and durable Tex-Rope drive.

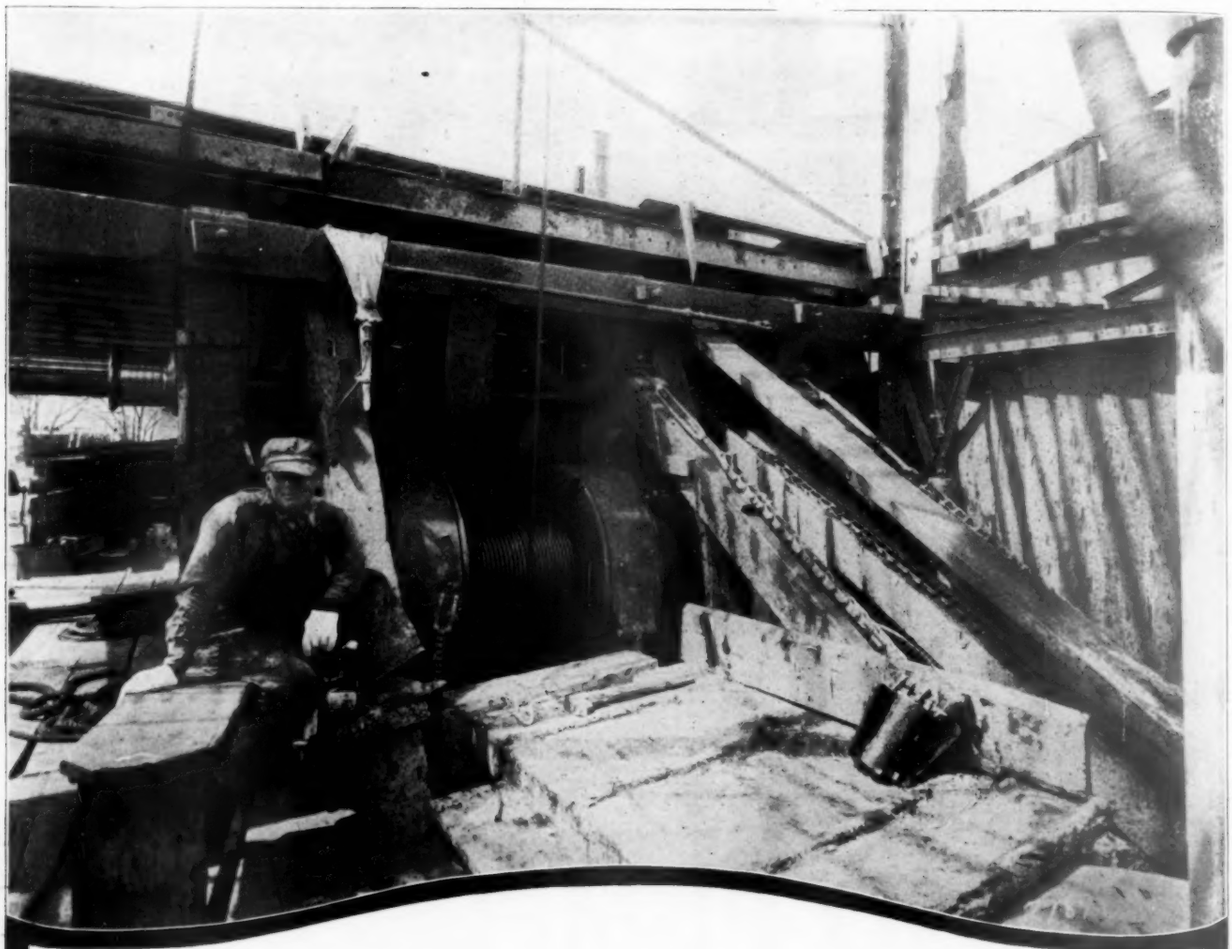
The unit is mounted on sturdy steel H-Beam skids.

This unit is also ideal for any other oil field service requiring the above capacities and working pressures. Write, wire, or phone for further information.

GASO PUMP & BURNER MFG. CO.
TULSA, OKLA.

GASO PUMPS
for every oil industry need

Of course we'll be at the Exposition—be sure to see us there.



Brains Back of Buying

The men who are concerned with getting greatest results from their drilling operations are the men who should interest themselves in our story.

WILLIAMSPORT WIRE LINES

TELFAX TAPE MARKED FACTORY CERTIFIED

are rendering unusual service in the oilfields, not because the driller or superintendent can instantly see by the Telfax System of grade marking that he is getting a line of proper Tensile Strength, but because Williamsport lines render a uniformly superior service in every operation.

This is proven by the hundreds of men in the field who would not think of using lines unmarked and of uncertain Tensile Strength or Grade.

Write us for complete interesting, illustrative information about this Telfax Tape Protection.

WILLIAMSPORT WIRE ROPE COMPANY

Main Office and Works: Williamsport, Pa.

General Sales Offices: 122 S. Michigan Ave., Chicago, Ill.

Oil Country Sales Offices: Williamsport Bldg., Fourth and Midland Valley Tracks, Tulsa, Okla.

Distributors:

Houston, Shidler, Blackwell, Ardmore, Holdenville, Bristow, Wichita Falls, Smackover, Arkansas City, Shreveport, Casper, Lewiston, Electra, San Antonio, Seminole, Borger, Pampa, Wink

Distributed by the Bridgeport Machine Company, Wichita, Kansas, and all of their Mid-Continent Branches

The Sign of a Good Gasoline

MAGNOLIA ANTI-KNOCK GASOLINE

Backed by Magnolia Standards

BEFORE Magnolia Anti-Knock Gasoline was put on the market, careful research, exhaustive tests and proved results were necessary to insure that our new gasoline was up to the high standards maintained in all of Magnolia products.

Magnolia Anti-Knock Gasoline is offered to the public and to the trade with the reputation of the Magnolia Petroleum Company solidly behind it.

It is a pure petroleum motor fuel which gives quiet and steady tugging power without over-heating on the long, heavy pulls, a fuel for high and medium compression motors which eliminates fuel knocks without penalties for the repair of pistons, valves or gas lines.

The same usual high quality will be maintained on Magnolia Gasoline. Magnolia Motor Oils and Lubricants defeat wear on all moving parts of automotive equipment.

All Magnolia Products Are Obtainable at Magnolia Stations and Dealers

Magnolia Fuel Oil Loading Stations **at Beaumont, Corsicana, Sabine, Galveston, Ft. Worth, Harbor Island, Luling, Corpus Christi, Dallas, Herma, Arkansas; Mirando.**

Refineries **located at Beaumont, Corsicana, Ft. Worth.**

Division Sales Offices **at Dallas, Houston, Ft. Worth, San Antonio, Oklahoma City, Little Rock, Amarillo, El Paso.**

INQUIRIES RESPECTFULLY SOLICITED

MAGNOLIA PETROLEUM COMPANY

General Offices: **DALLAS, TEXAS**

THE FIRST OIL WELL IN AMERICA

In August, 1859, Col. E. L. Drake brought in America's first oil well, near Titusville, Pa. Oil was struck at a depth of 69 feet. The investment was approximately $1,000.

Today, thousands of wells have been drilled and millions of dollars have been invested. Wells have been drilled to a depth of more than 8,000 feet. The story of the industry has been a story of progress.

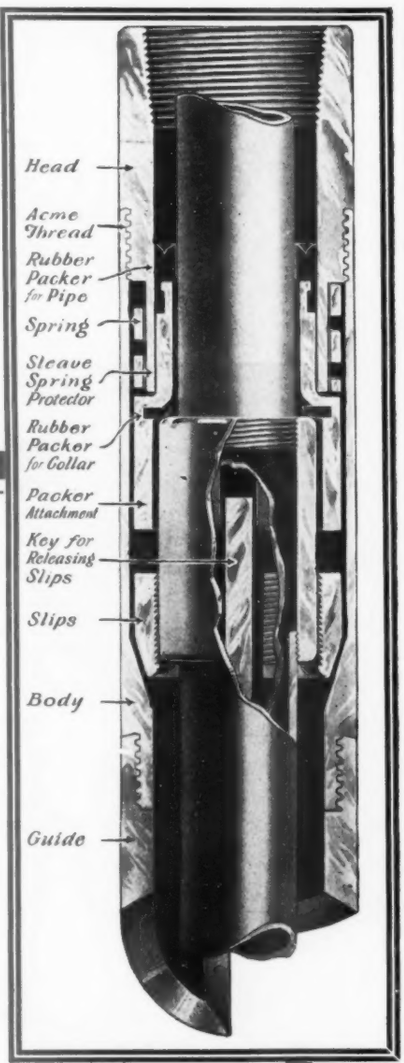
For seventeen years Norvell-Wilder have had a part in this progress. They have advanced hand in hand with the industry. When the need came for reliable tools, this company supplied them. When service became the issue of importance, Norvell-Wilder has a service that oil men appreciated. Norvell-Wilder will be ready when the next step forward is made. First and last serving the industry—constantly increasing confidence.

NORVELL WILDER HARDWARE CO. QUALITY AND SERVICE

NORVELL WILDER HARDWARE CO.

BEAUMONT HOUSTON SHREVEPORT FT. WORTH

The *NEW* *LeBUS* Overshot



—*has the features you WANT!*

—Fine wickered SLIPS

—with LEFT-HAND threading

—and ONE-INCH pitch to the revolution

—Operate on TWO KEYS

—and give INSTANT, POSITIVE RELEASE when rotated to the right.

also

—Steel packer with rubber inserts makes PERFECT JOINT that cannot be fouled by hard rotating.

Write For Catalogue!

LE BUS PATENTED OIL WELL TOOLS

LeBUS Automatic Cathead
LeBUS Slipsocket Overshot
LeBUS Eureka Tongs
LeBUS Breakdown Post
LeBUS Bottom Hole Plug
LeBUS Outside Drill Pipe Cutter
LeBUS Inside Pipe or Casing Cutter

AT YOUR DEALERS

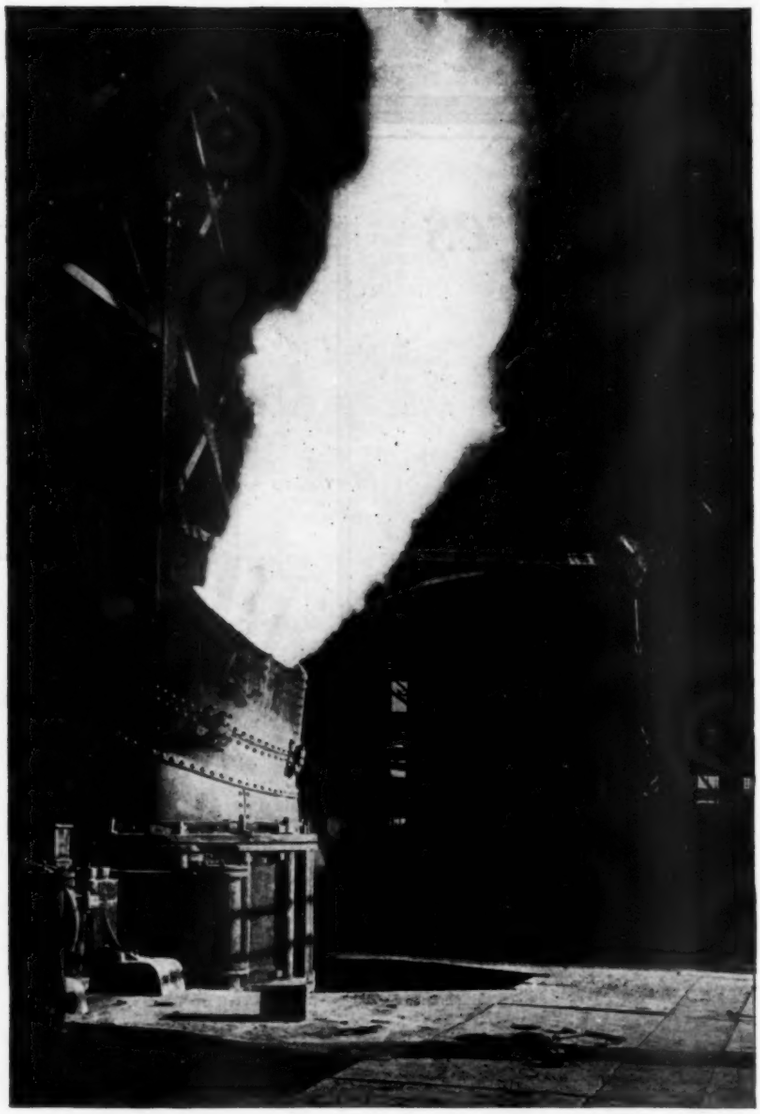
MANUFACTURED BY THE

LE BUS ROTARY TOOL WORKS

ELECTRA, TEXAS

Export Agents, Acme Well Supply Co., Inc., 136 Liberty Street, New York City, N. Y.

The first essential of quality steel pipe is Good Steel



Charge of pig iron being converted into steel in Bessemer Converter, in one of the Bethlehem Steel Company plants.

THE new pipe mills of Bethlehem Steel Company are scientifically laid out, and equipped with modern machinery. All operations are under the close supervision of men with long, successful experience in pipe manufacture.

But these advantages would count for little or nothing if it were not for the character of the material used in Bethlehem Steel Pipe. If there is one thing above another that is necessary to quality steel pipe it is good steel. There is no substitute for it.

Bethlehem Steel Pipe is made by an organization with more than half a century of experience in producing every kind of steel for almost every conceivable use. Steel used in the manufacture of Bethlehem Pipe is made especially for the purpose, to formulas developed by Bethlehem Metallurgists. It is the most suitable steel for pipe manufacture that it is possible to produce.

Bethlehem Steel Company makes Bethlehem Pipe and stands back of it.

You can depend on Bethlehem Steel Pipe. It meets every test.

BETHLEHEM STEEL COMPANY

General Offices: Bethlehem, Pa.

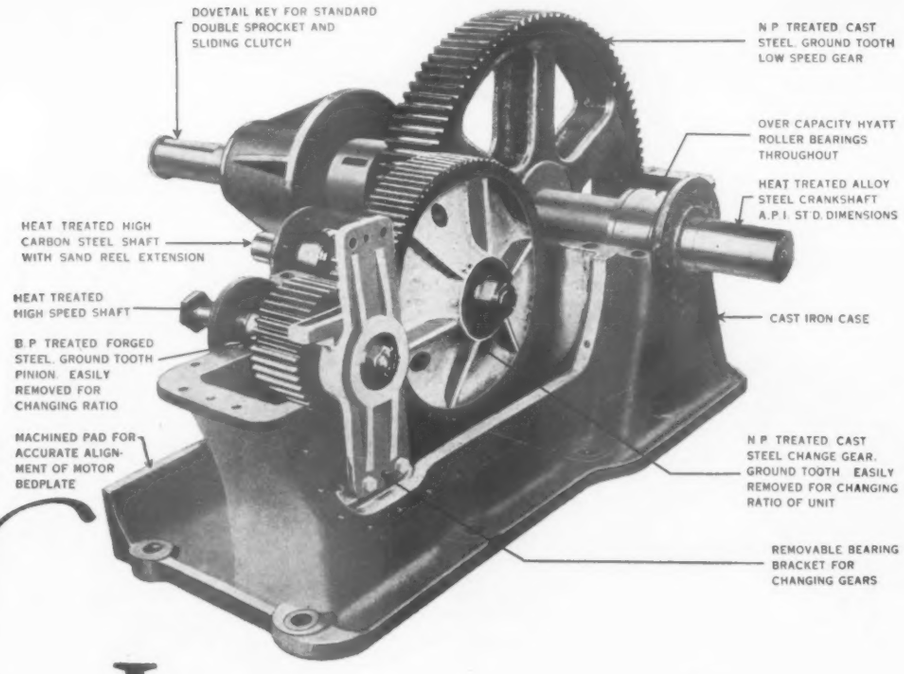
District Offices: New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Pittsburgh, Buffalo, Cleveland, Detroit, Cincinnati, Chicago, St. Louis, San Francisco, Los Angeles, Seattle, Portland and Honolulu.

Bethlehem Steel Export Corporation, New York
Sole Exporter of our Commercial Products.

Bethlehem Steel Pipe is the product of a complete steel producing organization.

BETHLEHEM STEEL PIPE

The name "Bethlehem" appears at intervals on every length of Bethlehem Steel Pipe.


DOVETAIL KEY FOR STANDARD DOUBLE SPROCKET AND SLIDING CLUTCH
N.P. TREATED CAST STEEL GROUND TOOTH LOW SPEED GEAR
OVER CAPACITY HYATT ROLLER BEARINGS THROUGHOUT
HEAT TREATED ALLOY STEEL CRANKSHAFT A.P.I. ST'D. DIMENSIONS
HEAT TREATED HIGH CARBON STEEL SHAFT WITH SAND REEL EXTENSION
HEAT TREATED HIGH SPEED SHAFT
CAST IRON CASE
B.P. TREATED FORGED STEEL GROUND TOOTH PINION EASILY REMOVED FOR CHANGING RATIO
MACHINED PAD FOR ACCURATE ALIGNMENT OF MOTOR BEDPLATE
N.P. TREATED CAST STEEL CHANGE GEAR GROUND TOOTH EASILY REMOVED FOR CHANGING RATIO OF UNIT
REMOVABLE BEARING BRACKET FOR CHANGING GEARS

for Increased Production!

PUMPING equipment must perform consistently—day in and day out—to keep production above the average. It must have the dependable operating characteristics and power of endurance to meet the strenuous requirements of oil fields.

Westinghouse-Nuttall double-reduction oil well units, manufactured by R. D. Nuttall Co., Pittsburgh, Pa., are designed and applied to meet the severest tests of service. The fact that the prime mover (electric motor, gas or oil engine) is directly connected to the high speed shaft through a flexible coupling assures uninterrupted service. The cumbersome band wheel, and all the attendant driving equipment, including belts, chains and countershafts are eliminated. It provides a direct, positive drive of the highest efficiency.

Double reduction units can be fitted with either plain, balanced or counter-balanced cranks and have the exclusive "change gear" feature which allows the pumping speed to be easily and quickly varied right in the field.

Further information can be secured from any office or branch of the Oil Well Supply Company, or from any of the district offices of the Westinghouse Electric & Manufacturing Company. Send for a set of our Oil Well Bulletins.

Oil Well Supply Co.
Authorized Distributors

Westinghouse - Nuttall

T 30018

Say you saw it in The OIL WEEKLY

The NEW Moore Champion

A SUPER DERRICK

REVOLUTIONARY in many respects, yet every feature is based on sound engineering practice and the actual experience of over twenty years devoted exclusively to making steel derricks and all-steel rig equipment.

Its strength, by the use of seamless pipe for leg sections, is unusually great; the ease and rapidity with which it is erected is surprising; its rigidity has never before been attained. Interchangeable fronts make it adaptable to any purpose. It conforms strictly to A. P. I. specifications.

Say you saw it in The OIL WEEKLY

GALVANIZED leg sections of A.P.I. seamless 40-50 carbon steel pipe, having a minimum yield point of 45,000 pounds per square inch.

Structural bracing, with wing braces in the first panel, gives unusual rigidity. Full X bracing in each 7′ panel and double X bracing in long panels in high derricks. Either galvanized or aluminum painted bracing will be supplied.

The rolled steel plate clamp, with ¾″ through bolts, gives a positive connection and reinforces the leg sections at the joint with a wide safety factor for the heaviest work. Two-bolt construction is used where needed. Only one wrench is necessary to tighten bolts.

Base plates, ladders, ladder landing platforms, brace intersection attachments, cat line guard, gin pole and many other specially designed features, all play a part in making the new Moore derrick a real CHAMPION.

For complete details, write for the new bulletin.

LEE C. MOORE & CO., *Inc.*

PITTSBURGH · TULSA

Established 1907

NEW YORK OFFICES: OILFIELD EQUIPMENT CO., 30 CHURCH ST., NEW YORK, N. Y.
DALLAS, TEXAS HOUSTON, TEXAS WICHITA, KANSAS CASPER, WYO.
PARKERSBURG, W. VA. SHREVEPORT, LA.

Stocks in all Principal Fields

Moore

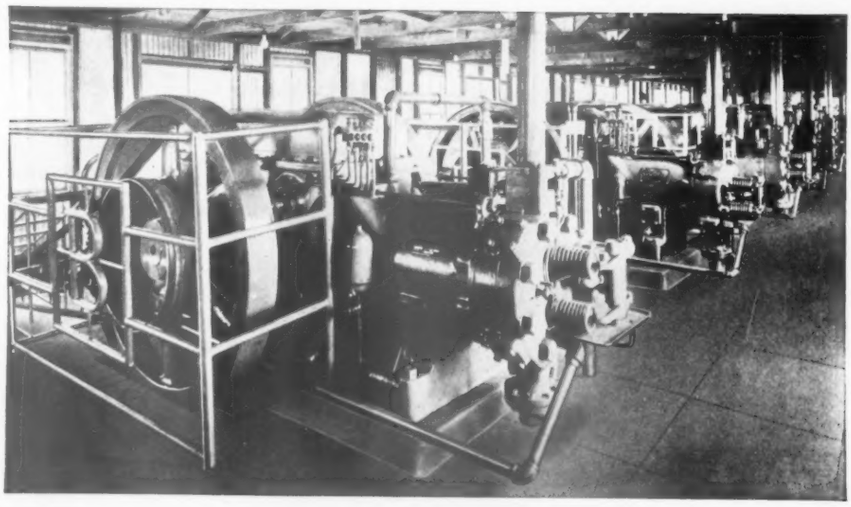
STEEL DERRICKS

ALL STEEL RIG EQUIPMENT

The rewards of discouraging the flighty individual whose chief "selling point" is a cut price in favor of the organization that has proved itself sincerely interested in the welfare and progress of the industry are, among other things – an assurance that the work will be done correctly and conscientiously; the knowledge of dealing with a company that constantly makes improvements that benefit the industry; and the satisfaction of helping to make possible the service facilities that the responsible organization maintains in both the flush and the less active fields

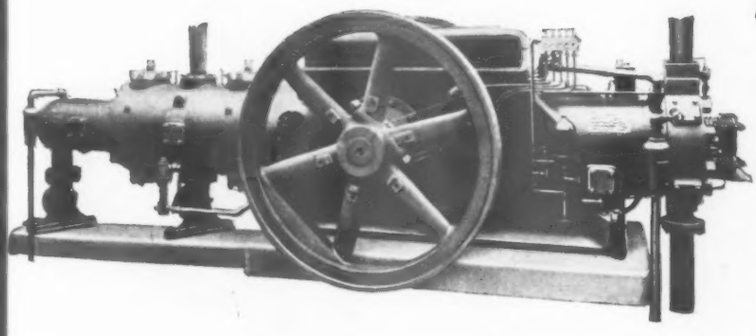
HALLIBURTON
OIL WELL CEMENTING COMPANY
DUNCAN, OKLAHOMA

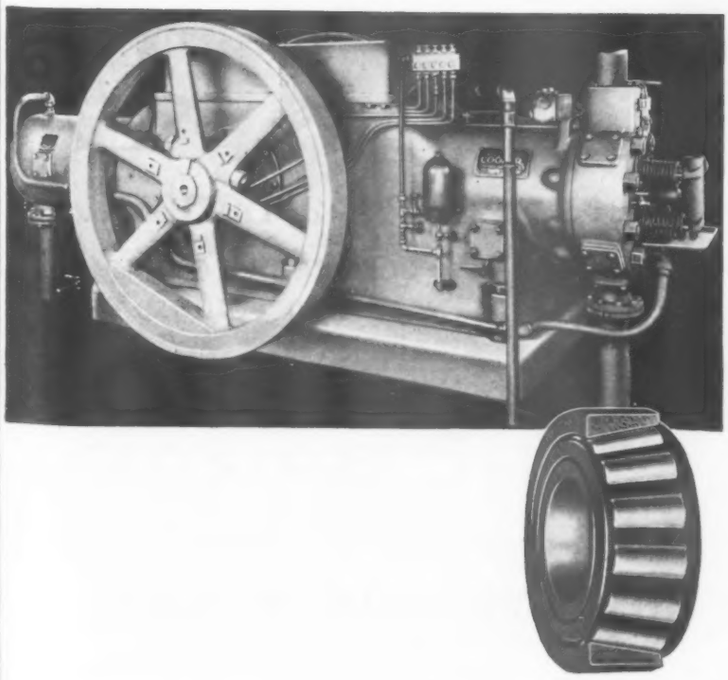
Say you saw it in The OIL WEEKLY



These Type-16, 50 B.H.P. Convertible C. & G. Cooper Gas Engines Have Crankshafts Mounted on

TIMKEN *Tapered Roller* BEARINGS





THE oil fields are almost 100% for Timken Bearings. On crankshafts, layshafts, governors, and many other places, Timken full thrust-radial capacity, Timken shock resistance and Timken anti-friction values add work capacity and endurance.

Prolonged heavy duty does not affect the rigidity and smoothness of Timken Bearings. These qualities are permanently protected by Timken tapered construction, *POSITIVELY ALIGNED ROLLS* and Timken electric steel.

Many other equipment manufacturers like The C. & G. Cooper Company of Mt. Vernon, Ohio, give their customers the big advantages of Timken friction elimination in power savings; in lubrication economy; in reduced up-keep and in increased effective horse power.

Oil field equipment with Timken Bearings is oil field equipment with greater potential productivity.

THE TIMKEN ROLLER BEARING CO.
CANTON, OHIO

This Split Liner is an exclusive feature of the PERFECTION.

Like peeling a banana . . .

the core comes out *whole* when you use

The PERFECTION CORE BARREL

Cutter Heads exchanged by any distributor

OIL CITY IRON WORKS

SHREVEPORT, LOUISIANA

Exporters: Continental Well Supply Co., 74 Trinity Place, New York City

Distributors:

Wilson Supply Company
Houston and Beaumont, Tex.
Hercules Supply Company
Dallas, Texas
Hercules Supply Company
Vernon, Texas
Hercules Supply Company
Pyote, Texas
Continental Supply Company
Duncan, Okla.
Continental Supply Company
Healdton, Okla.

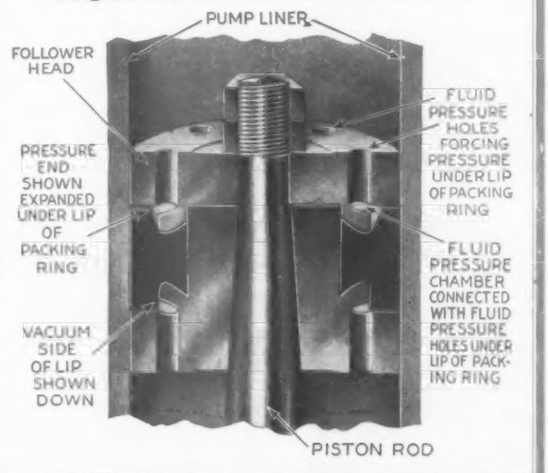
Oklahoma Office:
2 East California Street,
Oklahoma City

Say you saw it in The OIL WEEKLY

PROOF of Its VALUE—

REPEAT ORDERS

THE KIBELE PATENTED PRESSURE SELF EXPANDING FRICTIONLESS AND NON-SLIPAGE PISTON


PUMP LINER
FOLLOWER HEAD
FLUID PRESSURE HOLES FORCING PRESSURE UNDER LIP OF PACKING RING
PRESSURE END SHOWN EXPANDED UNDER LIP OF PACKING RING
FLUID PRESSURE CHAMBER CONNECTED WITH FLUID PRESSURE HOLES UNDER LIP OF PACKING RING
VACUUM SIDE OF LIP SHOWN DOWN
PISTON ROD

This piston is found among the equipment of the largest oil companies. These companies keep repeating their orders for the KIBELE PISTON. There is no better recommendation than this.

Repeat orders come because the men in the field report to their purchasing departments that they should standardize on KIBELE PISTONS because they outlast the average piston four or five times.

OIL MEN:

ASK FOR THE

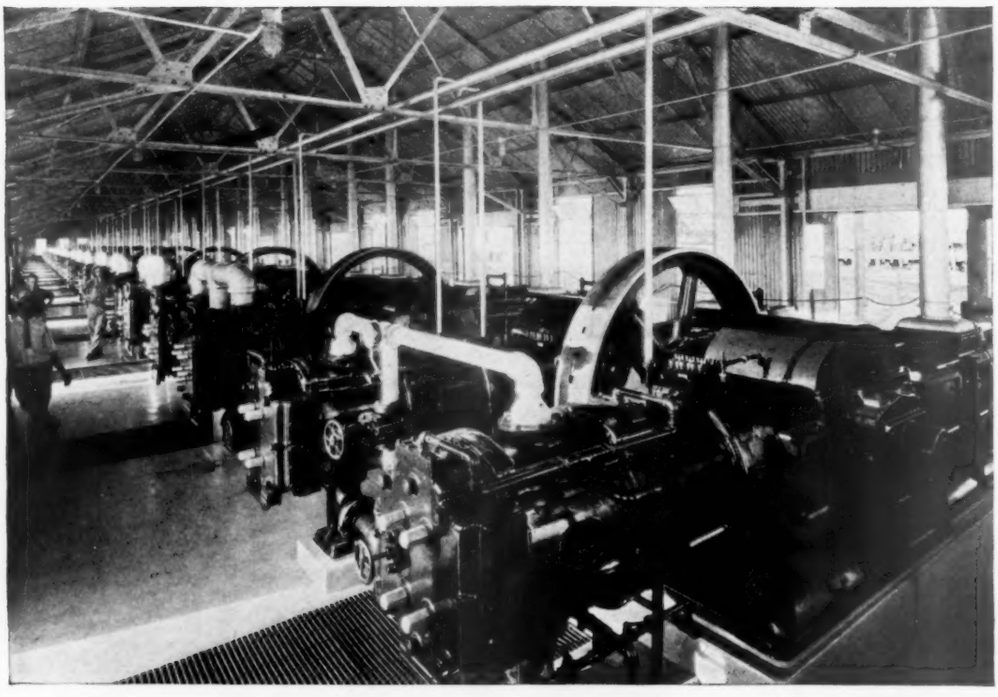
KIBELE PISTON

AT YOUR SUPPLY STORE

Write us today for information on this remarkable piston

MISSION

Sales Company, Inc.,
Esperson Bldg.
HOUSTON



Stewart plant of the Carter Oil Co. with its long line of eighteen 165 H. P. Bessemer Twin Type Tens equipped with 17x17x20 Bessemer Type V. H. Compressor Cylinders.

Because they keep on Running!

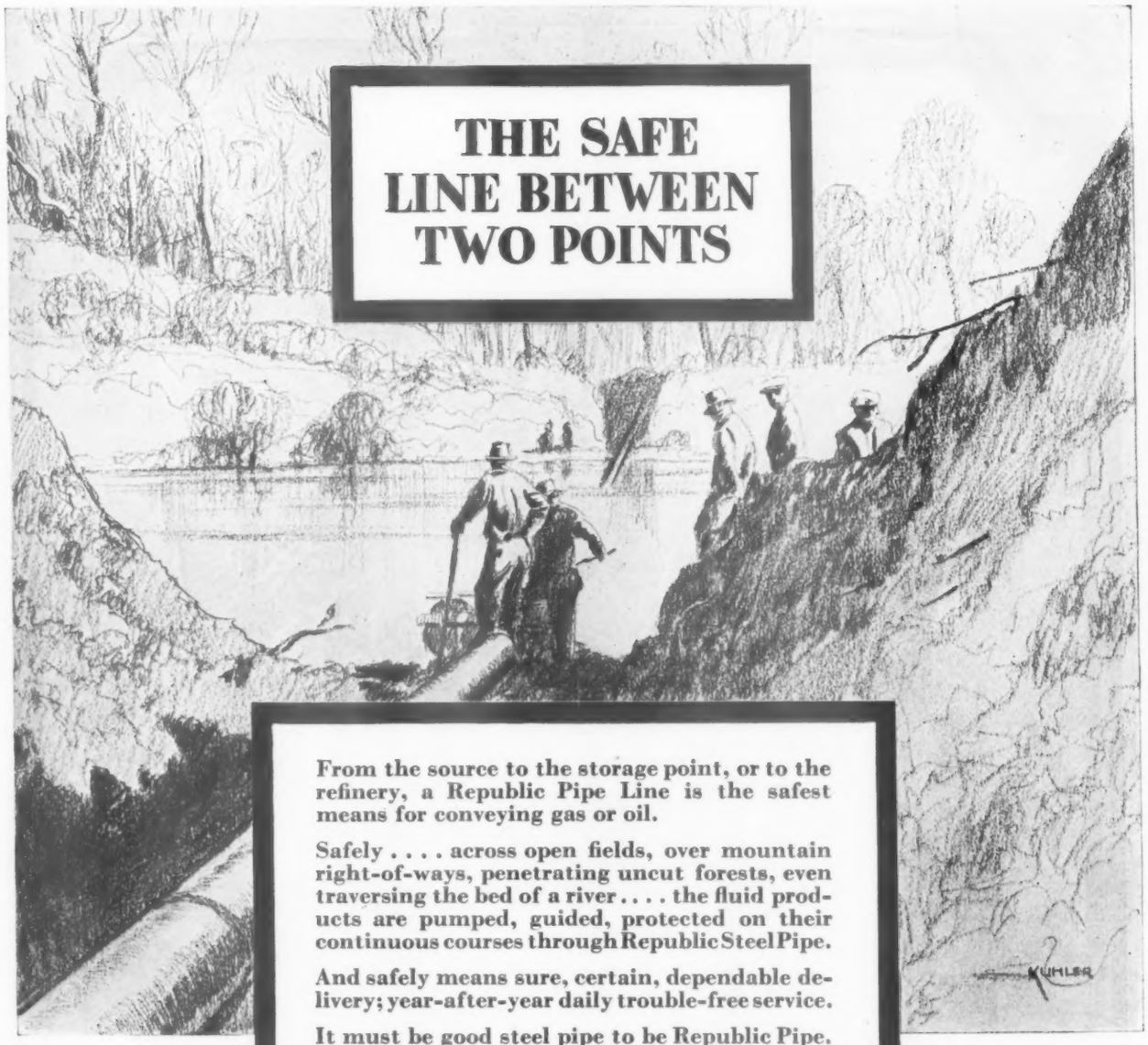
TWENTY YEARS or more of continuous service is the rule—not the exception with Bessemers. They are built so that they don't know what wear-out means; they take 24-hour-a-day service for granted and they are unconscious of the passage of the years. And during their decades of service they unfailingly deliver their 99%+ running time.

That is why one large user after another standardizes on Bessemers—for gasoline plants, air-gas lift plants, booster stations, vacuum plants, pumping, pipe line stations and drilling. Experience has proved conclusively that Bessemers unquestionably cost less by the year.

BESSEMER ENGINE COMPANY
62 York Street ∴ ∴ Grove City, Pa.

BESSEMER

Say you saw it in The OIL WEEKLY



THE SAFE LINE BETWEEN TWO POINTS

From the source to the storage point, or to the refinery, a Republic Pipe Line is the safest means for conveying gas or oil.

Safely . . . . across open fields, over mountain right-of-ways, penetrating uncut forests, even traversing the bed of a river . . . . the fluid products are pumped, guided, protected on their continuous courses through Republic Steel Pipe.

And safely means sure, certain, dependable delivery; year-after-year daily trouble-free service.

It must be good steel pipe to be Republic Pipe. The name on every length identifies and stands behind its quality.

PRODUCTS
Tubing
Casing
Line, Rotary and Drill Pipe

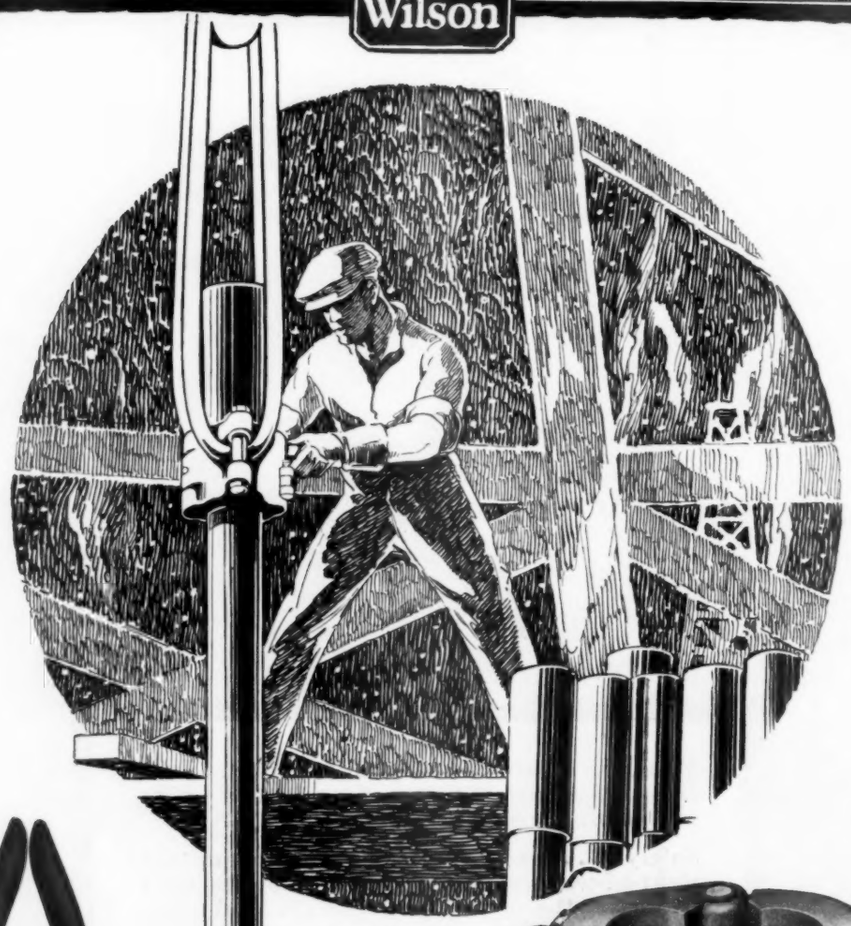
Branch Offices

Birmingham, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, El Paso, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Seattle, St. Louis

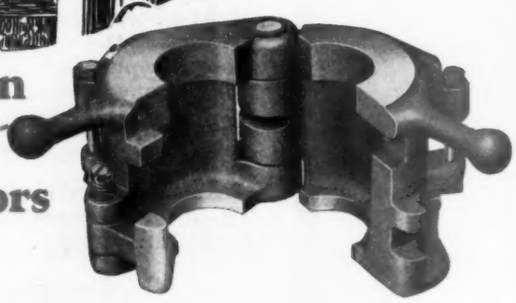
REPUBLIC
IRON & STEEL CO. YOUNGSTOWN O.
PIPE & CASING

Say you saw it in The OIL WEEKLY

It's a Wilson



Wilson Center-Latch Elevators



Observe the interlocking feature. A projecting lug on the left half of the body fits into the recess of the right half, adding reinforcement when the elevator is latched. Another advanced feature is the flat base. The elevator will not tip over and the contacting area of the base is evenly distributed over the rotary table when resting thereon.

First in Safety, Speed, Strength, Convenience

Wilson Oil Tools Corp.
DISTRIBUTORS FOR
Wilson & Willard Mfg. Co.

Factory and Distributor's Office — It's a Wilson — 2301 East Vernon Ave. Los Angeles, Calif.

Factory Representatives:

Tulsa, Okla.
409 Atlas Life Bldg.

Big Spring, Texas
15 New Lester Fisher Bldg.

Houston, Texas
2201 Breckenridge St.

Fort Worth, Texas
814 Dan Waggoner Bldg.

Oil Meters
For Every Service

Specially designed and constructed to stand the varying pressures and temperatures to which they are subjected—it's easy to see why these oil meters are widely used in the oil industry. For use on pressure stills, storage tanks, tank wagons and at service stations they are giving trouble-proof service. This is due to their adaptability to all conditions, no matter how adverse.

When conditions make it necessary, our engineering department works with the operator to fit the exacting demands of his problem. This service, in which our fully equipped mechanical and engineering laboratories are at the disposal of our customers, adapts meters to fit the requirements of the job, and has enabled many companies to eliminate all troubles arising from faulty meters.

Tropic Oil Meters

PITTSBURGH EQUITABLE METER COMPANY
PITTSBURGH, PA.

BRANCH OFFICES
New York, New York.
Chicago, Illinois.
Dallas, Texas.
Los Angeles, Cal.
Tulsa, Oklahoma.
Seattle, Washington.
Columbia, S. Carolina.
Salt Lake City, Utah.
Kansas City, Missouri.

D+B Heatreat

API Specifications
SUCKER RODS

D & B engineers have developed a special heat treating process for sucker rod steel that constitutes the most notable advance in the history of sucker rod manufacture. This special heat treating process raises the tensile strength of the steel to 112,000 pounds per square inch. The elastic limit and fatigue range are also tremendously increased.

Actual well tests covering a five month period on more than a million feet of D + B Heatreat Sucker Rods show a perfect record of not one pin break. One string has been tested to a 400% overload capacity. All through the fields D + B Heatreat Rods are making remarkable service records.

D & B "Quality First" manufacture extends through the creation of each D + B product, from the selection and development of materials best suited to the service involved to the best methods of insuring long satisfactory performance in the field.

"If CONTINENTAL Sells It, There Is No Better"

THE CONTINENTAL SUPPLY CO.

General Offices: St. Louis
Export Office: 74 Trinity Court, New York
London Office: 316-317 Dashwood House, Old Broad St., E. C. 2
THE CONTINENTAL SUPPLY COMPANY, LTD.
411 Lancaster Bldg., Calgary, Alberta, Canada

CONTINENTAL

Say you saw it in The OIL WEEKLY

INDEX OF ADVERTISERS

Acme Fishing Tool Company.....
J. S. Abercrombie Company.....
Ajax Iron Works .....
Alco Oil Tool Company .....
Allis-Chalmers Manufacturing Company 22
Allsteel Products Manufacturing Co. ..
Aluminum Company of America .....
American Association of Petroleum Geologists .....
American Cable Company .....
American Iron & Machine Works .....
American Manufacturing Company ..
American National Brokerage Company
American Roller Bearing Company....
American Seamless Tube Corp. ....
American Schaeffer & Budenberg Corporation .....
American Telephone & Telegraph Co. .....2nd Cover
American Well Works 100
Andrews Steel Company 84
Arbon, Paul & Co. .....
Ash Grove Lime & Portland Cement Company 87
Askenia-Werke, A. G. .....
Athey Truss Wheel Company .....
Axelson Machine Company .....
Ayer & Lord Tie Company 100

B. & A. Specialty Company .....
Baash-Ross Tool Company .....
Baird Tool Works, Inc. .....
Baker Casing Shoe Company .....
Barber-Greene Company .....
William S. Barnickel & Company....104
Barnsley, R. O. .....
Bartlett-Hayward Company 98
Bartlesville Supply Company 99
Beebe Brothers .....
Bessemer Gas Engine Company 16
Bethlehem Steel Company 8
Billings & Spencer Company .....
Bovaird Supply Company .....
Boykin Machinery & Supply Company.
Broderick & Bascom Rope Company.. 85
Buckeye Traction Ditcher Company...
Buda Company .....
Buffalo Bolt Company .....
Burns Tool Company .....
Butler Manufacturing Co. ....3rd Cover
A. M. Byers Company .....
Byron Jackson Pump Company .....

Cameron Iron Works .....
Phillip Carey Company .....
Central Texas Land & Development Company .....
Chain Belt Company .....
Chamber of Commerce, Houston .....
Chicago Bridge & Iron Works .....
Chicago Pneumatic Tool Company.....
Chisholm-Moore Manufacturing Company .....
Clark Brothers Company .....4th Cover
Climax Engineering Company 97
Columbia Nut & Bolt Company .....
Columbian Steel Tank Company .....
Continental Supply Company 20
Cook Paint & Varnish Company.....
Fred E. Cooper .....
Crescent Belt Fastener Company.....
Crucible Steel Company of America...
Cyclone Fence Company .....

D. & B. Pump & Supply Company...
D. & M. Machine Works .....
Darling Valve & Manufacturing Co. ..
E. M. Dart Manufacturing Company...
Diamond Drill Carbon Company 100
Drane-Humphrey Co., Inc. .....
Dunn Manufacturing Company .....

Economy Pump & Oil Tool Company.
E. H. Edwards Manufacturing Company
Electric Controller Manufacturing Company .....
Edwards Wire Rope Company 81
Elliott Core Drilling Co. 53
Emsco Derrick & Equipment Company.103

Fearis Separator Company .....
Fenwick-Reddaway Manufacturing Co. 84
Fort Wilder Laboratories 106
Franklin Valveless Engine Company...
Frick-Reid Supply Corporation 71

Gardner-Denver Company 107
Gaso Pump & Burner Manufacturing Company 3
General Electric Company 69
B. F. Goodrich Rubber Company ....
H. P. Gott Manufacturing Company...102
Grant Oil Tool Company .....
Gray Tool Company .....
Guberson Corporation 59
Gulf Publishing Company 89
Gulf Refining Company 114
Gulf States Utilities Company 43

Halliburton Oil Well Cementing Co... 12
Erle P. Halliburton Company .....
Hardway & Cathey 106
Haynes Stelite Company .....
Harrisburg Pipe & Pipe Bending Company .....
Harrisburg Pipe & Pipe Bending Company of Texas .....
Hart Brothers Machine Co. .....
Heppenstall Forge & Knife Company. 92
Hercules Motors Corporation .....
Hercules Supply Company .....
Hercules Tool Company .....
Heydrick Mapping Company 106
Hill, Hubbell & Company 113
Hilton Hotels .....
Hinderliter Tool Company .....
Hirsch & Brown 106
Hobbs Manufacturing Company .....
Hopkins, Edwin B. .....
Charles N. Hough Manufacturing Company .....
Houston Engineers .....
Hughes Tool Company .....Front Cover
Humble Oil & Refining Company.....105
Hunter-Walker Company 100
Hyatt Roller Bearing Company .....

Independent-Eastern Torpedo Company
Ingersoll-Rand Company .....
International Cement Corporation .....
International Derrick & Equipment Company .....
International Compositions Company...
International Petroleum Exposition... 41
International Supply Company .....

Jarecki Manufacturing Company .....
Jensen Brothers Manufacturing Company .....
S. M. Jones Company 90
Jones Oil Well Reamer Company .....

Kansas City Hay Press Company .....
Kennedye Plumb Corporation .....
Kerotest Manufacturing Company 56
Keystone Pipe & Supply Company 102

Landis Machine Company .....
Larkin & Company 73
La Salle Hotel .....
Layne & Bowler Company 55
LeBus Rotary Tool Works 7
Linde Air Products Company .....
Link-Belt Company .....
Lucey Products Corporation .....
Ludlow Valve Manufacturing Company

McAlpin Hotel .....
McCollum Exploration Company 106
J. H. McEvoy & Co. 49
Maintenance Engineering Corporation.104
Magnolia Petroleum Corporation 5
Maloney Tank Manufacturing Co. 96
Manzel Brothers Company .....
Martin-Loomis Corporation .....
Martin Wagon Company .....
Phillip Maverick 106
Mead Morrison Company 94
I. C. Melcher .....
Metric Metal Works 51
Miller Combination Bailer & Pump Company .....
Robert J. Miller Company 112
Mission Sales Company 15
Lee C. Moore & Company 10-11

National Petroleum Engineering Co..102
National Supply Companies 93
National Transit Pump & Machine Company 66
National Tube Company .....
Neil House .....
Norris Brothers .....
Northrup Equipment Company .....
Norvell-Wilder Hardware Company... 6
R. D. Nuttall Company 9
Nye Tool & Machine Works .....

O'Brien Steel Construction Company..
Oil City Iron Works 14
Oil Country Specialties Co. .....
Oil Well Supply Company 24
Osage Indian Agency 99
Oxweld Acetylene Company .....

Parkersburg Rig & Reel Company 79
Patterson-Ballagh Corporation .....
Pattin Bros. Company .....
Pecos Valley Power & Light Company .....
Peden Iron & Steel Company 86
Penberthy Injector Company .....
Petroleum Engineering University ....
Petroleum Rectifying Company 75
Philadelphia Gear Works 89
Pittsburgh Equitable Meter Company.. 19
Pittsburgh Steel Products Company.... 77
Polk, R. L., & Co. .....
Pratt & Whitney Company .....
Prest-O-Lite Company 83

Quinn, F. D. .....

Reading Iron Company .....
Reed Roller Bit Company .....
Regan Forge & Engineering Company 45
Joseph Reid Gas Engine Company ....
Republic Supply Company .....
Republic Iron & Steel Company 17
R. F. Electrical Company .....
Rhode Island Fittings Company .....
Rollway Bearing Company .....
Rotary Supply Company .....

Safety Pulling Machine Company.....104
Schroeder Products & Mfg. Co. .....
J. E. Shaffer Company .....
Shaffer Specialty Company .....
Shaffer Tool Works 96
Sheffield Steel Corporation .....
Sinclair Refining Company .....
S-K-F Industries .....
A. O. Smith Corporation .....
Smith Separator Company 91
H. C. Smith Manufacturing Company..
Howard Smith Company .....
South Chester Tube Company 101
Southern Engine & Pump Company..
Spang & Company .....
Spang Chalfant & Company .....
Stanley Belting Corporation 99
Star Drilling Machine Company 67
Standard Seamless Tube Company....
Jesse R. Stone 106
Sullivan Machinery Company 86

Templeton, Kenley & Company .....
Texas Creosoting Company .....
Texas Cyclone Fence Company .....
The Texas Company .....
Texas Power & Light Company .....
Timken Roller Bearing Company 13
Texas Sand & Gravel Company 106
Titusville Iron Works .....
Edgar Tobin Aerial Surveys .....
Traction Machine Company .....
Trimont Manufacturing Company 68
Trumble Gas Trap Company 106
Tulsa Pump Company .....
Twin Disc Clutch Company .....
Tyler Tube & Pipe Company 88

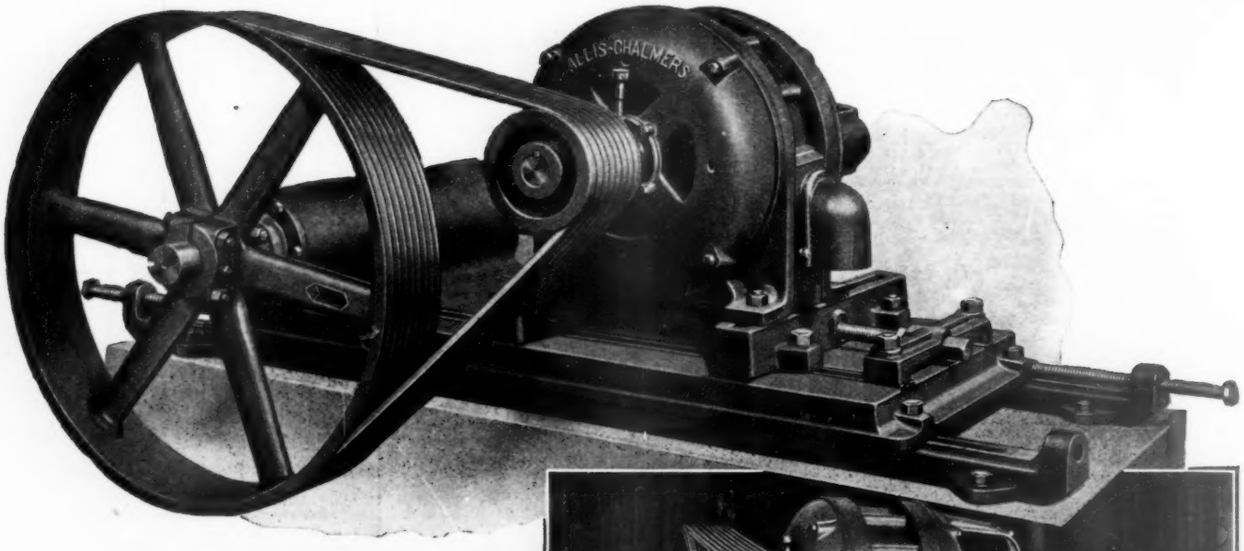
Union Manufacturing Company .....
United Iron Works .....
United States Torpedo Company .....
U. S. Tool Company .....

The Vez Company 47

Warwick Hotel 98
Waukesha Motor Company 108
C. W. Webster 106
John F. Weinzierl 106
Westinghouse Electric & Manufacturing Company .....
Westcott & Greis .....
Western Metal Manufacturing Co. ....
West Texas Utilities Company .....
Wickwire-Spencer Steel Company 88
Wico Electric Company .....
J. H. Williams & Company .....
Williamsport Wire Rope Company 4
Wilson Oil Tools Corp. 18
Wilson-Snyder Manufacturing Company
W-K-M Company .....
T. T. Word Supply Company 95

Yale & Towne Manufacturing Company

Zero Hour Torpedo Company .....



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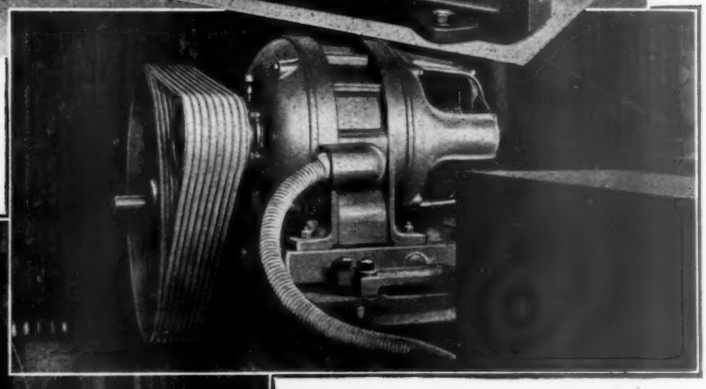

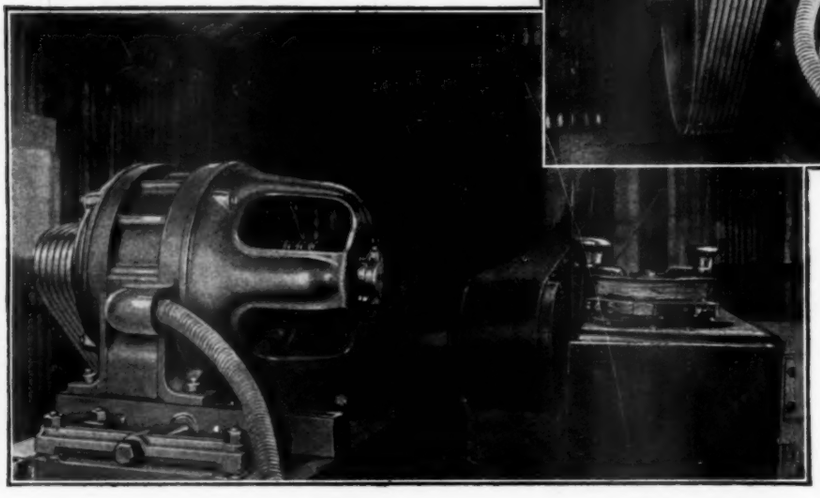

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TABLE OF CONTENTS

Features

DROP IN WEST TEXAS BRINGS U. S. PRODUCTION DOWN 25
STATEWIDE PRORATION SEEN AS NEXT OKLAHOMA STEP 27
By Wallace Davis
LITTLE RIVER FIELD HITS 129,204 BARRELS ON OPEN GAUGE 29
By Wallace Davis
OPERATORS WANT FIELD MEETINGS TO STUDY PROBLEMS 30
WEST TEXAS OPERATORS BRING NEW FIELD PRACTICES 31
By A. S. Field
WIRE LINE LUBRICATION 35
By W. C. Thomas
LONG BEACH WILL BE CRITICAL FACTOR FOR SOMETIME 37
By Brad Mills
YATES POOL DAILY POTENTIAL NOW 3,425,923 BARRELS 39
By A. R. McTee
HUMBLE PLANS LINE TO HANDLE RACCOON BEND OUTPUT 42
By Jack Logan
THE BIG ROTARY RIG OF TODAY 46
By Harry Pennington
EDGE WELLS AND WILDCATS HOLD LOUISIANA INTEREST 63
BIG LAKE WELL SMASHES DEPTH RECORD 60
By H. H. King
OIL AS A RAIN MAKER 57
By Wallace Davis

Departments

UNITED STATES PRODUCTION—A. P. I. FIGURES 70
COMPLETIONS FOR THE PAST WEEK IN ALL U. S. FIELDS 72
PERMITS GRANTED FOR NEW WELLS DURING THE PAST WEEK 82
WILDCAT DRILLING REPORTS FROM ALL IMPORTANT AREAS 90
NEW EQUIPMENT, CATALOGS, BULLETINS AND BOOKS 109
SQUEAKS FROM THE BULL WHEEL 112
CRUDE OIL PRICE QUOTATIONS 74
WEST TEXAS PRODUCTION DETAILS 65
PERSONAL MENTION 65
MOUNTAIN STATES FIELD DEVELOPMENT NOTES

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Say you saw it in The OIL WEEKLY

Drop in West Texas Brings U. S. Production Down

THE average daily production of all the fields of the United States during the week ending September 8, according to estimates of the American Petroleum Institute, was 2,494,200 barrels, a decrease of 9050 barrels as compared with the average for the previous week. The week ending September 1, however, had furnished the peak of production since the early part of October, 1927; and so the average for the past week still represented a relatively high figure—the highest of the year with the exception of that September 1 peak.

The 9050-barrel decrease was brought about in spite of 6800, 2250 and 450-barrel increases in California, Oklahoma and the Gulf Coast, respectively; those increases having been outweighed by decreases in all other sections of the country. The principal declines were in West and North Texas.

West Texas dropped slightly below the 350,000-barrel mark, registering a decrease of 11,450 barrels. Declines of approximately 3000 and 2000 barrels respectively in Pecos County and Crane-Upton Counties were offset by a 5000-barrel increase in Howard County; and a decrease of about 1000 barrels in Reagan County was counterbalanced by an increase of about the same amount in Jones County; but there were no material gains in other sections of West Texas to offset the decrease of about 11,000 barrels in Winkler County.

North Texas registered a drop of about 4000 barrels in the daily average as compared with the average for the week ending September 1, with the bulk of the decrease in Wilbarger County.

There was little change in the daily production of Montana and Colorado, but the other two Rocky Mountain oil states, Wyoming and New Mexico, showed decreases of 1550 and 1300 barrels, respecticely.

Champagnolle declined 2050 barrels, and that was the only material fluctuation in Arkansas. Kansas dropped off 400 barrels and North Louisiana 550 barrels.

The increase in California was due to gains of 3500 and 4000 barrels, respectively, at Long Beach and Ventura Avenue, the other fields of the state showing only slight, if any, changes.

In Oklahoma an increase of about 8000 barrels at St. Louis was only partially offset by a drop of approximately 4500 barrels at Little River, only slight changes occurring in the other fields.

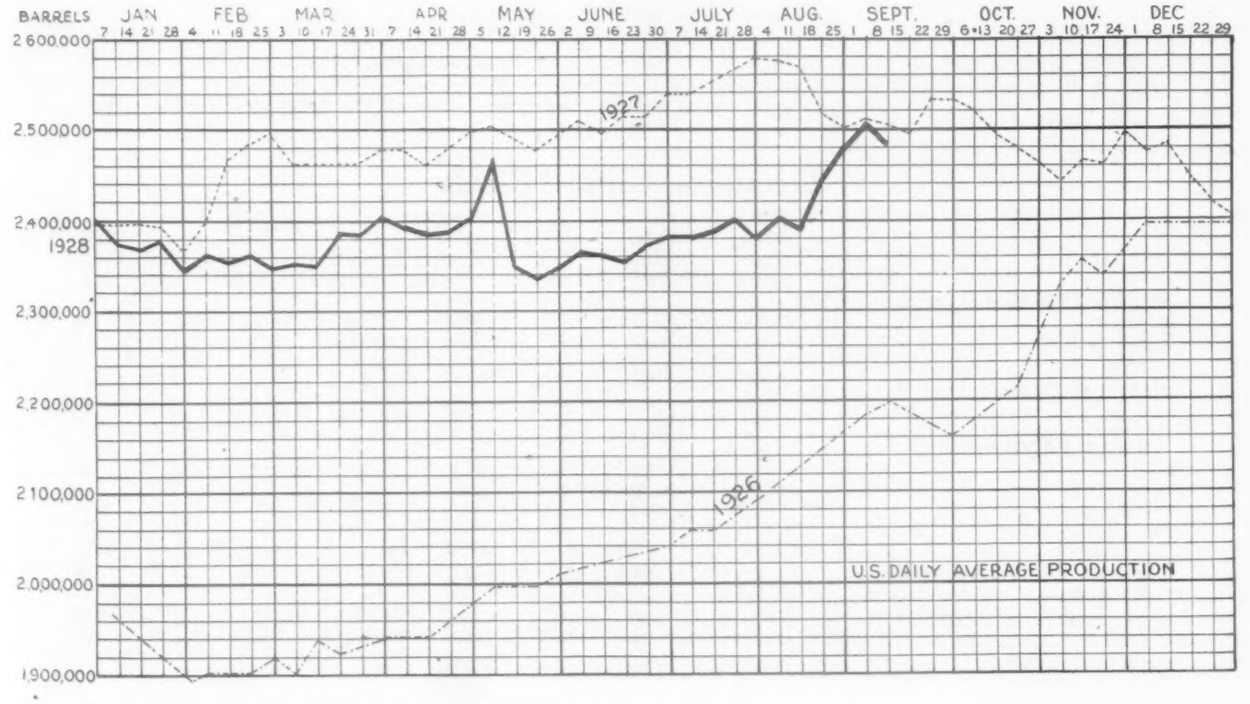
The Louisiana Gulf Coast slumped 1400 barrels, but Coastal Texas increased 1850 barrels, giving the Gulf Coast as a whole a slight net increase.

Better in Oklahoma

The crude situation in Oklahoma and Kansas took a turn for the better during the first week in September, while the refined gasoline market managed to hold its own, kerosene continued strong after a month of gradual advance, and natural gasoline was greatly weakened, falling one cent within the week.

Action on the part of the Oklahoma Corporation Commission to establish a plan of effecting statewide proration to the extent of limiting crude output to a certain safe figure fixed by the pipe line companies according to their needs monthly promises to solve, once and for all, the problem of curbing overproduction. The cooperation of producers with such a pro-

UNITED STATES CRUDE PRODUCTION TREND



posal, which is rapidly being worked out, lends real strength to this logical movement. All fields with wells averaging more than 100 barrels daily will be envolved in the prorating plan.

Little River field dropped below 100,000 barrels late in the week after a peak of 119,000 barrels two weeks ago. Lack of pressure and a rapid defining of the productive area, plus appearance of water in 14 locations, limits the possibilities of Little River as the market breaker it was recently considered. St. Louis field also continued to offer weaknesses through the week with two of the flush Wilcox producers going dead. Though later revived by deepening, the dying of such wells points to a rapid elimination of the field as a danger source. Late in the week production at St. Louis declined near 91,000 barrels from a peak of around 97,000 barrels.

Natural Gasoline Weakens

Lack of demand for natural gasoline forced manufacturers to reduce the price as low as 8¾ cents per gallon late last week, marking a decline of one cent in seven days. This decline is expected to continue somewhat with the passing of the biggest months of consumption, though sales are predicted to continue fairly large through the coming two months.

U. S. Motor grade gasoline was generally held at 9¾ cents through the week, with only a few small refiners selling at a shade under this. The big retail selling over Labor Day in the Mid-Continent helped to clean up considerable stocks from buying of late in August, and thus new orders were brisk last week. There were 300,000 gallons of refined stocks less on hand September 1 than August 1 in this territory.

Kerosene stocks have been lowered within the past month, and 41-43 Water White last week was selling strong at 6½ cents.

The impetus given all phases of the California market by the recent increase in light crudes is still felt and a decidedly optimistic tone is in evidence, notwithstanding the deluge which may—and may not—come from the Santa Fe Springs field. The increase had exactly the desired effect in many instances, having partially stopped the payment of premiums and hushed the rumors that California operators are not receiving a fair price for their oil. The strategy employed in boosting only the lighter grades was well placed and did not create a move to open up the 75,000 barrels of heavy oil shut in in the various fields of the state. It had been feared that a general rise in prices would demoralize the curtailment movement, in that many of the smaller operators who have reduced production would want to operate their leases at a maximum when the first signs of improvement appeared. Some of the smaller fields—Round Mountain, Mt. Poso and Kern Front—are still almost entirely hunt in.

Long Beach showed a flash of its old form by yielding two of the largest wells completed since the present development campaign began. The initial production of these remarkable producers was 5600 and 6700 barrels and sent the market experts scurrying to revise their figures on the area. The action of the field during the past month has not been impressive and a series of mediocre wells fooled all alike. These two wells tell a new story and mean that Long Beach will be a critical market factor through at least the first six months of 1929. With 180 wells drilling and new locations appearing almost every day, there may be more surprises in store during the fall months.

Santa Fe Springs operators are hastening with all possible speed to reach the new deep zone discovered about two months ago. This field appears as a dark cloud over the entire industry, and all are wondering whether the results will be as bad as often pictured. The field is plainly a disturbing factor, but the fact that little oil is coming from the deep zone temporarily allays the fear of overproduction. Santa Fe Springs crude was raised with the rest, the only thing that could be done under the circumstances. Production is only 38,000 barrels, and, regardless of what the field may do at a later date, actual conditions were met.

Gasoline consumption is some higher in California than last year, but the percentage of increase is somewhat smaller than anticipated, running about six per cent above 1927, where 10 per cent was expected. Both the wholesale and retail market is in better condition than during the spring months. Many cut-rate dealers have raised the retail price to conform with the standard posted price. During the summer, some gasoline was retailed at as much as seven cents below the standard price.

The fuel oil market has not shown the improvement expected, due to seasonal conditions and the keen competition offered by both Gulf Coast and South American points.

Special Train Planned For A. P. I.

Plans for a special train for the American Petroleum Institute to carry South and West Texas and Oklahoma oil men, are under way.

It is planned that oil men attending the American Petroleum Institute from South Texas will leave Houston at noon on the Southern Pacific for Dallas at which point the Houston cars will be attached to a special train running over the Katy. This special train from Dallas will carry not only the oil men from South Texas but those from Dallas, North Texas and other sections, and will move north over the Katy.

An invitation is being extended to Oklahoma oil men to join this special train at various points in Oklahoma. It will leave Dallas shortly after 6 o'clock in the evening and will arrive in St. Louis in plenty of time to make connections probably over the Wabash for Chicago, arriving in Chicago on the evening before the opening of the American Petroleum Institute.

Details on Critical Fields

	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Prod. Per Well	Rigs Up	Wells Drilling
WEST TEXAS—								
Hendrick	320	1,820,477	5,657	338	190,164	*562	26	130
Church & Fields	186	202,545	1,089	199	36,906	190	..	2
Gulf-McElroy	64	54,370	850	64	10,887	170	..	2
Yates	250	1,543,996	6,176	252	79,776	*316	8	43
Total	820	3,621,388	4,416	853	317,733	372	34	177
TEXAS PANHANDLE—								
Hutchinson County	1,116	547,010	490	985	34,240	35	3	22
Gray County	261	109,329	419	250	22,480	82	9	57
Carson County	180	59,270	329	151	6,645	44	2	10
Wheeler County	44	14,645	333	35	770	22	6	11
Total	1,601	730,254	456	1,421	64,135	45	20	100
OKLAHOMA—								
Greater Seminole	1,440	1,953,930	1,357	1,193	309,037	258	31	146
St. Louis	123	129,734	1,054	119	91,391	768	16	128

*Production partially pinched.

State Wide Proration Seen as Next Oklahoma Step

Operators favor plan to put all fields with well averages better than 100 barrels under restrictions

By WALLACE DAVIS
Staff Representative

TULSA.—Every field in Oklahoma having a well average of more than 100 barrels is apparently destined to be drafted into the state's conservation program to contribute its share of proration needed to right the present over-production situation of crude oil. So numerous are the new areas that have recently come under the class of contributing units to the general disturbing factor that it has become advisable to no longer make the burden of proration apply to only outstanding fields.

More than 100 Oklahoma operators were represented at a hearing held before the Corporation Commission here September 6, at which Fred M. Capshaw, commission chairman, presided. Representing the commission he heard testimony from Ray M. Collins, umpire, and a large number of producers for the purpose of gaining as nearly as possible the exact status of the production situation. From this testimony, which will be thoroughly studied, the commission will render a decision within the near future by which operators are to abide in handling newly discovered fields and producing proven properties that come under the market disturbing class.

All Favor Plan

That the plan of including every field having more than a 100-barrel well average will be adopted is highly probable inasmuch as it was favored, almost to a man, at the hearing. It even met the approval of operators generally to the extent of letting it also cover South Little River field, which heretofore has been regulated by a separate proration program and which, prior to the hearing, was figured to continue following its distinct program even though a general plan of curtailing other Oklahoma production were accepted. It had been considered that the following of the old plan in Little River was necessary inasmuch as the present drilling campaign there is being made along the lines of proration measures outlined to fit this particular field before present active operations were started, and that a change there would effect an unfairness to operators who had entered the development of the area on such a basis. However, the suggestion to include Little River in the general proration program of the state was favored practically unanimously by the producers there, and this attitude will be considered by the commission in making its final decision. In the event Little River was included in the statewide program, then the present order in effect there which limits 40-acre tracts to 1600 barrels and which expires September 10, would end this field's individual proration program and the plan of placing a 125,000 barrel daily maximum on the field from September 10 to November 1 would be cancelled before it actually came into existance.

Collins Gives Views

Umpire Collins had the witness stand for the first two hours at the Stptember 6 meeting. Under questioning of W. C. Franklin, vice president of Tidal Oil Company, who represented the legal committee of the Mid-Continent Oil & Gas Association, Collins outlined the production situation in Oklahoma, using figures and other information arrived at through several weeks of research and his experience gained through handling Greater Seminole fields for the past 15 months.

The markets of Oklahoma are now capable of absorbing roundly 650,000 barrels of crude daily, while the state is yielding 700,000 barrels, Collins testified. He said production would probably increase to 900,000 barrels, or more, by December if development were not restricted, approximately 600,000 barrels of which would come from Greater Seminole area, in which he includes the St. Louis field.

In answer to questions covering the entire country Collins stated that present storage of oil in the United States, including refined products, aggregated 612,000,000 barrels. He placed the figure on producing wells in the country at 275,000 and stated that more than 40,000 of these were now operating at a loss due to overproduction, explaining that owners of such wells were simply trying to tide them over until crude prices put them on a paying basis.

Big Supply in Sight

Although Oklahoma now has only about 60,000 barrels production daily actually pinched in, there is an enormous amount of crude in sight, Collins testified, and named as illustrations several outstanding spots of probable danger in the event of drilling. He cited the Mission field of the western side of Township 8-6, west of Bowlegs, as having 1000 acres proven, and estimated that it could yield 100,000 barrels by the end of the year if developed. He defined the Maud area of Township 8-5, which was opened by Barnsdall Oil Company nearly a year ago, as an unknown quantity, but estimated it would become hazardous to markets if opened. Mid-Continent Petroleum Corporation's discovery wildcat in Section 5-7-7, a mile and one-half east of Little River field, had 2000 barrels initial yield and was pinched in without a test of the Wilcox sand. Collins named this area as probably good for 50,000 barrels.

As to producing fields, the Roxana area of Logan County, western Oklahoma, was the only field named as being subject to drafting into the proration program outside of the general vicinity of Greater Seminole, which takes in Allen field of Pontotoc, Seminole and Hughes counties. The Roxana field was given as good for 10,000 barrels from eight wells, but stated that due to great depth this output would more than likely not be increased before the close of the year. Twelve wells are drilling there. The Allen field would come under statewide proration, producing 20,000 barrels from 128 wells, and having 30 active operations under way there now. St. Louis field was described as producing 92,000 barrels from 99 wells and having 156 active locations, including drilling wells, rigs up and new locations staked.

Collins placed Oklahoma's producing wells at 60,000, and said that 40,000 of these were producing less than five barrels daily. In the neighborhood of 1500 wells in the state are averaging more than 100 barrels.

To Cover Wildcats

The proposed statewide proration would cover wildcat operations, of which there are now 137 active, including 74 drilling, and 63 rigs and locations. It would have any wildcat discovery pinched to 100 barrels daily for 30 days, while the owner and offset acreage holders would have time to meet and devise some logical and reasonable program of development.

As to proven fields where wells are making more than 100 barrels, the amount of production would be determined each month by a meeting of the umpire and his staff. Their figure would be determined from information obtained from purchasers during the month as to what amount of crude they needed to supply the markets. Then the potential yield of wells would be obtained by open flow tests monthly, and each field would be curtailed according to its amount of overproduction. A new figure might be allowed the entire state each month, but 700,000 barrels is expected to be the starting mark. This figure, incidentally, would effect no proration, considering the present output of crude, but it is to be remembered that this would not be the output with flush areas open. The figure, furthermore, would be cut as winter months resulted in less consumption. An example of the statewide proration program is summarily this: If crude purchasers could well handle 600,000 barrels

daily but the state was capable of yielding 900,000 barrels daily, then 300,000 barrels would be pinched in. This amount would be distributed among fields causing the surplus.

T. B. Slick of Tom Slick, Incorporated, voiced disapproval to the proposed plan on the grounds that it would mean the pinching of wells at St. Louis, where he contends pinching means killing of the wells. As on many occasions before he declared he was for proration where it was fair, and plead to be allowed to do his prorating in old, settled fields, where pumpers, not flowing wells, could be more feasibly prorated. He declared St. Louis would be out of the danger class in less than 90 days due to a rapid weakening of pressure there and the hazardous nature of the soft sand. He stated that pinching a big Wilcox well in St. Louis would add to the ultimate recovery of a well a mile away. He argued for his discovery rights at St. Louis, and questioned the value of proration of crude to the producers, saying the refiners were being enabled to keep a high price on gasoline without raising crude prices. He flayed the representation of the advisory committee, stating there were no independent producers serving, but that every member was a purchaser or refiner as well as a producer. Chairman Capshaw asked Mr. Slick if he would serve on the committee, and he refused. "Purchasers bought Cushing for 28 to 40 cents and sold it for $3.50 a barrel during the World War," he declared. "I'm not looking for another war, but I am looking for a million aeroplanes in five years."

Max Westheimer of Westheimer & Daube offered the only adverse criticism, declaring proration of any kind was unfair. This concern has considerable acreage in the lime region of St. Louis field.

Since the legal strength of Corporation Commission orders on proration was brought to the carpet and won decidedly last week by the commission, umpire and Little River operators over Reiter-Foster Oil Corporation, those who are strong for conserving oil are going into the present proposed plan with more feeling of secureness.

The attitude taken by the recently organized Mid-Continent Royalty Owners Association in favor of proration was widely appreciated by producers and the umpire and his staff. This organization represents more than 100,000 acres of royalty in Oklahoma and Kansas, and has voted solidly to go along with the producers in whatever measure they see fit to take to help conservation. The association was represented at the hearing by Guy H. Woodward, counsel, who voiced the views of the membership of more than 350 in presenting a resolution.

Farmington, New Mexico. — Town Board of Farmington has granted a franchise for supplying the town with natural gas to Howard L. Bean of Amarillo, Texas, subject to ratification by the voters at a special election to be held soon. The line will be laid by the Hope Engineering & Supply Company of Mt. Vernon, Ohio.

Tulsa, Okla.—Refusal of Marland Production Company to withhold further drilling in the Mission area three miles west of Bowlegs field prevented another thirty-day shutdown to October 15, when operators met Monday afternoon here with Umpire Ray Collins.

Marland and Roxana jointly hold the northwest quarter of the southwest quarter of section 6-8-6 with Roxana bound by contract to drill an offset to Gypsy's Mohar one, a 2500 barrel producer in the southeast of the northeast of section 1-8-5. This well has been shut in since completion early in August, but will be obligated to produce with offsets starting. Failure to continue the shutdown will mean seven locations starting immediately, while Collins has started work to complete some plan to minimize drilling activity.

Refusal of White Eagle Oil and Refining Co., to further withhold operations in section 9-8-5, Maud area, is forcing McMann Oil and Gas Company, a joint owner, to start two wells in the southeast quarter of the section.

Bayou Boullion Well Flows 215 Barrels

Houston. — Rycade Oil Corporation's State 1, which was completed recently as the third well at Bayou Boullion, St. Martin Parish, Louisiana, is now flowing around 215 barrels a day. Its depth is 3080 feet. Rycade's Fee 2 in the same field is pumping around 480 barrels a day, and the Bayou Boullion 2 is swabbing 50 barrels.

Rycade Oil Corporation completed the discovery well of this field last March; and is the sole operator there. It is running four rigs in the field. Its Bayou Boullion 3 early this week was drilling shale at 2550 feet; Atchafalaya Fee 3 was rigging up; State 2 was drilling sand at 2275 feet; and the Martin 1 had reached a depth of 4883 feet.

Many Seminole Wells Making Water

Tulsa.—On September 1 there were 439 wells in Greater Seminole fields making water, or 38 per cent of the total producers. Seminole City field had 103 making water, Earlsboro had 169, Bowlegs 94, Little River 38, and Searight field had 35.

Of the 1190 producers there were only 105, or eight per cent of Greater Seminole wells flowing naturally. Little River's south extension was responsible for this number as the percentage had two months ago dropped as low as seven per cent. Little River had 58, Earlsboro 23, Searight 14, Bowlegs six and Seminole City four wells flowing naturally.

There were 146 wells drilling in the five fields September 1, including 110 at Little River, 21 at Earlsboro, 11 at Bowlegs, three at Seminole City and one at Searight. Eighty-five of the 146 were below 3700 feet, with 62 at Little River, 13 at Earlsboro, seven at Bowlegs, two at Seminole City and the one at Searight below this level. This performance indicates that the activity in Greater Seminole is due to be largely completed within the coming two months except for development around a possible new extension discovery.

Thirty-one rigs were up in five fields, with 19 at Little River, nine at Earlsboro and three at Bowlegs. Little River had four locations staked September 1, Earlsboro had three and Bowlegs one.

Fuel Consumption of Railroads

Washington.—During 1927 the total consumption of fuel oil by railroads in the United States was 68,777,836 barrels, as compared with 68,392,390 barrels during 1926. This represents an increase of 0.57 per cent. These figures were given out by the Department of Commerce, and were compiled by Arthur H. Redfield, assistant economic analyst of the Bureau of Mines in a special study of railroad fuel oil consumption for 1927. The rise in the amount of fuel oil consumed was attributed to greater consumption in California, a smaller increase in Washington and Oregon, and insignificant advances in the Rocky Mountain and North Central States. There was an important decline in the quantity consumed in the Atlantic States, and a slight decrease in consumption of the South Central States. Furthermore, there was a general lessening of demand for the fuel oil due to greater efficiency and economy in locomotive operation.

In Mr. Redfield's study it is stated that stocks of fuel oil held by railroads at the close of 1927 totaled 15,886,106 barrels as against 16,533,784 barrels in storage at the beginning of the year.

Laredo, Texas.—Sun Oil Company's Yeager-Strohman B-2, new extension well of the Albercas field, Webb County, is now flowing 1400 barrels of oil a day through a one-half inch choke, while making considerable gas.

This is the largest well that has been completed in the Laredo district for a long time. Although the open flow capacity is only a matter of conjecture, it has been estimated that the well is capable of producing from 5000 to 10,000 barrels a day.

The location of the well is in Share 5, Las Animas Grant. It is in the southern end of the Albercas field, 1600 feet from the nearest production, at a point south and east of the former limits of production. Previously completed gas wells of the area ran in a general northeast to southwest direction.

The production of the new well is from a sand at 2166-72 feet, and casing is set at 2158 feet.

Little River Field Hits 129,204 Barrels on Open Gauge

Flush field gauges for the Seminole District indicate 465,000 barrels or 40,000 barrels over allowed output

By WALLACE DAVIS
Staff Representative

TULSA.—Flowing wide open to gauge the potential yield of Oklahoma flush fields Little River produced 129,204 barrels from 223 wells at Tuesday morning's gauge, raising Greater Seminole's output to 334,283 barrels from 1196 wells. St. Louis field gauged 100,165 barrels Tuesday against 101,331 barrels Monday.

Umpire Ray Collins stated that flush field gauges for September 10 and 11, indicated 465,000 barrels, 40,000 barrels in excess of allowed daily yield, which will mean a proration of approximately 10 per cent.

Independent Oil & Gas Company completed Tewee 3, southwest northwest southeast Section 14-7-6, Little River, Tuesday, swabbing 932 barrels in 19 hours from Wilcox at 4223-33 feet, giving the south extension nine producers. Pure Oil Company's Lindley 1, Maud area extension well of last week, flowed 1885 barrels Monday and 760 barrels under 660 pounds back pressure Tuesday and was shut in again.

Tulsa.—St. Louis field's three-quarter-mile east extension made by Magnolia Petroleum Company in July has resulted in another extension to this flush area, this time a Wilcox sand well lending more importance to the future possibilities to this field, which is yet termed as an unknown quantity by Mid-Continent operators.

Mid-Continent Petroleum Corporation Guinn 1, in the southwest of the southeast of the northeast of Section 20-7-5, nearly a half mile northeast of Magnolia's Fyke 1, a Simpson sand producer, topped Wilcox sand Saturday afternoon at 4225 feet and at one foot in produced 920 barrels in 14 hours. Monday morning it was flowing 165 barrels an hour with Wilcox sand drilled to 4234 feet. Gravity tested 42.5 at 85 degrees. It is structurally about 100 feet higher than the Magnolia's Fyke well, having an elevation of 909 feet against the Fyke's 938-foot elevation, and the Fyke had Simpson sand at 4336 feet, and has not yet been drilled to the Wilcox. Magnolia Pipe Line Company is taking the crude from the new extensioner.

Fault or Structure Exists

Geological opinions agree pretty generally that a fault or unusually big drop in structure exists between the new well and St. Louis field proper, taking the general trend of formations in wells along the east side of St. Louis' Wilcox production as a criterion and also that of Magnolia's Fyke 1. Three-quarters east of the new well is Indian Territory Illuminating Oil Company's wildcat failure in Wilcox sand at 4169-75 feet, where salt water was encountered. Magnolia owns the three offset locations to Mid-Continent's discovery, and all three are drilling around 3000 feet. One mile north and a quarter east of the producer Barnsdall Oil Corporation had a Wilcox failure at 4378 feet. Roxana Petroleum Corporation has a "forty" east of the Mid-Continent well and is drilling the southwest location.

Phillips Gets Big Well

Phillips Petroleum Company's Stahl 1, offsetting T. B. Slick's No. 4, on the south, flowed 9333 barrels after cleaning out as compared with 6183 barrels Saturday. Stahl 2, offsetting No. 1 on the south, was producing 60 barrels, yet incompleted. Independent Oil & Gas Company was preparing to install air lift on all of its Wilcox producers on the Youts in the east of the southeast quarter of Section 19-7-5, and had air pressure already operating on Younts 2 and 5, increasing production from its five wells from 21,295 to 28,515 barrels at Sunday's gauge. Gypsy Oil Company's Stahl 1 and 2 produced 12,229 barrels Sunday against 11,259 barrels Saturday, No. 2, in the northeast of Section 30, having been completed three days before in Wilcox sand. No. 1, a west offset, was completed more than a week before, and is flowing on air.

Prairie Oil & Gas Company's Wolfe 1, in the southeast of the northwest of the northwest corner of Section 29-7-5, swabbed 120 barrels Sunday from 4300 feet while drilling Simpson sand. Prairie's Gammon 2 and 3 on an 80-acre tract, the south half of the northwest of Section 30-7-5, were producing from Hunton lime Sunday, but drilling through Simpson sand to the Wilcox.

Magnolia Petroleum Company's Hembree 2, in the southwest of the northwest of the southwest of Section 19-7-5, made 85 barrels after a 25-quart shot from 4134-59 feet, and No. 3 produced 40 barrels while drilling at 4040 feet in Viola lime.

In the Simpson and lime area of the west side of St. Louis Phillips Petroleum Company's Cherry 1, a water well 10 days ago in Wilcox sand, swabbed 12 barrels and five barrels of water in Simpson sand after plugging back to 4210 feet. It is in the southwest of the northwest of the northeast of Section 25-7-4. Gypsy's McGee 4, in the southwest of the northeast of Section 23-7-4, had 1200 feet of oil and 600 feet of water while drilling at 4236 feet in Simpson sand. McCulloch Oil Company's Bruno 3, in the northeast of the southeast of the northeast of Section 25-7-4, swabbed 827 barrels of oil from Simpson at 4236½ feet after a 20-quart shot. Independent's Freid 3, in the southwest of the northeast of the northeast of Section 23-7-4, swabbed 90 barrels while drilling Simpson sand at 4345 feet. Independent's Carson 1, in the northwest corner of Section 23, flowed 10,000,000 cubic feet of gas and sprayed 10 barrels of oil September 7 from Hunton lime at 3815 feet with Hunton topped at 3734 feet. Darby Petroleum Company's Hathcock 1, in the northeast corner of Section 22, made 13,000,000 feet of gas from Hunton lime at 3788 feet. Interocean Oil Company's McGee 2, in the southwest of the northwest of the southeast of Section 23, swabbed 210 barrels oil and 50 barrels water from 4157 feet in Simpson.

Independent's Youts 4, in the northwest of the southeast of the southeast of Section 19-7-5, flowed 266 barrels in 16 hours and increased to 180 barrels an hour from Wilcox sand at 4105-57 feet.

St. Louis Production

Following is the flush production from St. Louis field by companies for September 9 and 10:

	9th	10th
Gypsy Oil Company's Stahl 1	5792	6177
Stahl 2	5467	6052
Independent O. & G. Co.'s		
Youts 1	8925	8850
Youts 2	2615	7700
Youts 3	2895	2660
Youts 4	4090	3705
Youts 5	2770	5600
Magnolia Pet. Company's		
Fyke 1	2715	2832
Hembree 1	3403	2112
Hembree 2	103	88
Youts 1	223	200
Phillips Pet. Co.'s Stahl 1	60	60
Stahl 2	6183	9333
T. B. Slick, Inc.'s Hembree 1	5727	2112
Hembree 2	5635	5690
Hembree 3	4893	5995
Hembree 4	5682	1610

The 45 Simpson sand wells produced 26,998 barrels at Sunday's gauge and 26,800 barrels at Monday's gauge, while 14 Wilcox sand wells made 64,180 barrels Sunday and 67,683 barrels Monday.

Operators Want Field Meetings To Study Problems

GALVESTON, Texas.—Local field meetings as often as once a month were favored by those in attendance at the Fall Meeting of the Texas, Louisiana, Arkansas Division of Development and Production Engineering here last Wednesday and Thursday. It was proposed that such meetings would offer an opportunity to reach a larger number of field men and thus create discussion of individual field methods and problems. The information secured from such discussions to later be incorporated in a prepared paper to be presented before a regional meeting of the Division.

It was thought that this procedure would facilitate the work of the division in collecting and correlating data on the several subjects which have been accepted by the Division as of paramount importance at this time. It will also serve to develop and disseminate valuable field information at the point where it would do the most good.

Officials of the Texas, Louisiana, Arkansas Division were instructed to give the matter further consideration and present a plan of procedure to the general Division of Development and Production Engineering of the American Petroleum Institute.

More than 150 field men, engineers and production executives were present at the meeting here and participated in the discussion of the field problems and practices as developed by a number of prepared papers presented to the gathering.

Following the presentation of a paper by W. W. Scott of the Humble Oil and Refining Company on Methods of Completing Wells in the Gulf Coast, a resolution was proposed suggesting the Division of Standardization of the American Petroleum Institute appoint a sub-committee to consider the advisability of setting up standards for the gauging of oil well screen.

Committee meetings of the two committees appointed to prepare subjects for study on Drilling Practice and Production practice were held and the following subjects were recommended to the Division:

For Drilling Practice in the order of their priority are: 1—Casing Practices; 2—Cementing and Water Shutting-off Practices; 3—Mudding Practices; 4—Drilling-in and Formation Test Practices; 5—Drilling Areas of High Gas Pressure; 6—Methods of Drilling, Completing and Equipping Gas Wells; 7—Use of Wire Rope and Weight Indicators; 8—Deviation of Holes; 9— Steam Boiler Equipment for Drilling; 10—Drilling Prime Mover Equipment, General; 11—A. P. I. Standards for Drilling Rig Equipment; 12—Rigs and Derricks.

For Production Practice the following subjects were selected: 1—Flowing Wells; 2—Pumping Wells; 3—Gas Lift and Methods of Measuring Gas; 4—Repressuring Partly Depleted Fields; 5—Emulsions; 6—Equipment.

The meeting also went on record as favoring four district meetings a year to be held intermediately between the two National meetings.

The first session of the meeting was turned over to the discussion of the use and value of A. P. I. Standardized Equipment and several papers were presented on this subject, dealing with the situation as found in the several districts of Texas, Louisiana and Arkansas. Similar papers on methods of completing and equipping wells were presented by representatives from the various sections of the district and two special papers of a semi-technical and practical nature were read.

Entertainment included a golf tournament at the Galveston Country Club and a banquet on Thursday night at the same place.

The hit of the banquet was a speech made by Frank S. Carothers of the Norvell Wilder Hardware Company, who kept the audience in an unroar as he penned various men of the oil industry with a style that would put to shame high salaried performers up East. Carothers told what was wrong with the American Petroleum Institute and gave minute details on the history of about 10 South Texas oil men.

John R. Suman of the Humble Oil & Refining Company acted as toastmaster. W. L. Childs, general manager of Reed Roller Bit Company, acted as "cheer leader."

An Opportunity to Reach the Field Man

IF the plan of the American Petroleum Institute announced at Galveston last week to hold semi-regional meetings of field superintendents, foremen, engineers, etc., is carried out promptly and efficiently, the Institute will have started something of practical value in the way of getting to the field captains of the industry those facts which it is necessary they should have on the A. P. I. standardization program.

But—and we believe that this additional value from such meetings will outweigh even the standardization value—these regional meetings will do more to improve drilling and production practices than any one thing the Institute could do.

Briefly, the plan is to invite the key men in the various fields immediately around some local point, to convene at that point for a day's discussion of practices, standardization plans, etc. In these semi-local meetings it is not likely that any prepared papers will be read, but it is probable that a program of subjects which will be discussed will be placed in the hands of those invited, and the program will consist of a round table discussion of these subjects, or such of them as will be decided upon. Out of these semi-regional meetings will undoubtedly come prepared papers dealing with the discussions at such sessions, and these papers will be read and discussed at district meetings, and so on up to the national meetings.

We observed that at the Galveston meeting (which, except for the absence of representatives of two or three of the major companies whose men we had expected to be present, was well attended) was a most practical one. And while the discussion on some subjects did not dig very deep into theory, they were listened to with interest and at least two or three papers left the listeners with something valuable and definite to take back to their own fields.

We also observed a very apparent interest in the discussion of those A. P. I. standards which were brought up.

If the oil industry wishes to take advantage of the money and time spent on standardization, it must sell the field officers of the industry on it more than they have been sold—and these meetings are ideal for that purpose.

West Texas Operations Bring New Field Practices

By A. S. FIELD
District Superintendent, Roxana Petroleum Corporation

Presented before the Texas, Louisiana, Arkansas Division of Development and Production Engineering at Galveston, September 5-6.

THE Permian Basin of West Texas contributed one of the largest gusher fields in the world when the Hendrick Pool in Winkler County was discovered and developed. This prolific field with an average initial production of almost 5100 barrels from 270 completed wells has probably the highest average initial production per well of any field in the United States, with the exception of the great Yates shallow pool in Pecos County.

Like all major fields in the Permian Basin the Hendrick Pool is lime production, the present proven structure being an anticline with a northwest-southeast strike. The present producing area is six and one-half miles long by one and one-half miles wide on the main structure. Production extends over a dip in excess of 500 feet, with a steeply dipping western flank, commonly as much as 70 feet between locations, 660 feet apart. The eastern flank appears to be sloping more gently, but less consistently between regular well locations than the western flank.

Geologic Column Similar

The geologic column above the lime is usually found quite similar in the wells, but varies considerably in different parts of the field. The surface sand is between 150 and 500 feet thick, below which is found the Barstow sandstone ranging from 25 to 150 feet thick. It is noteworthy that this horizon is no indication whatever of the structural condition in the lime. Below the Barstow sandstone are alternating beds of sand and red bed or red shale to a depth between 1100 and 1500 feet. This is followed by the anhydrite and salt section, which carries to a depth between 2200 and 2700 feet. This last named section varies largely in the ratio of salt to anhydrite, the salt being very thin in the north and west and thickening to the east and south. Where the salt is absent, its normal position is occupied by red bed and anhydrite and sometimes sand. The base of the salt section invariably carries thin streaks of red bed and sand. Immediately below this and overlying the brown lime is a strata of hard blue-white anhydrite about 40 to 70 feet in thickness. The brown lime is the principal structural horizon marker in the field, and upon it all correlations and contours are based. Therefore, it is regarded very important to determine accurately the top of this lime. Between the high and low points of the producing area its depths vary between approximately 2200 and 2700 feet and is regarded as a very desirable casing point.

Production is found in the lime at depths of 220 and 750 feet below the top and for purposes of correlation and conveniences the various pays are classified in zones. In general the shallow pays are found low structurally, and their depth in the lime increases toward the crest of the anticline. The most persistent pay zone throughout the field occurs between 415 and 450 feet below the top of the lime. Occasionally, due to a local lack of porosity, this pay is "missed," and drilling is continued in search of a deeper pay zone. The deeper pay zones are not nearly as persistent and are regarded as lenticular. Many wells are producing from about 500 feet in the lime, one or two from about 600 feet, and one or two around 740 feet in the lime. All of these deeper pays are grouped near the central portion of the field. All shallow pays, with one notable exception, are grouped along the extreme western flank of the anticline. Here, production is encountered in several pays between 220 and 380 feet in the lime. Many wells on the western flank are producing in three to five separate and distinct pays between the above mentioned depths.

In all cases the oil and gas occurs in porous lime having a honeycomb structure. It follows from this that the amount of oil depends largely on the amount and degree of porosity encountered. Cores from rotary wells show streaks of porosity in the pay zones from a few inches to as much as 15 or 20 feet. The pores which carry oil and gas have very probably been formed by leaching action of an acidous circulating water. That leaching was subsequent to deformation is shown by coincident pore spaces between the faces of fracture planes. It is interesting to note there is considerable deposition of asphalt in thin seams and dykes parallel to the bedding and in vertical fractures. This is usually found in the pay zones or in close proximity to them and is readily identified by its vitreous lustre and concoidal fracture.

Water is steadily encroaching throughout the field, and the order of its appearance does not abide by the laws which usually hold true in a sand field. The advancing water apparently has a combination of lateral and vertical movement. The vertical movement is attained through vertical fracturing, which is strongly in evidence in many cores. This often allows high structural wells to show water within a few days after completion, sometimes initially, and before wells which are situated much lower structurally.

The rock pressure in the field in the early days of development was around 1300 pounds, but this has since decreased to about 1000 pounds. This high gas pressure, coupled with large volumes, tends toward a long flowing life, and many wells continue to flow naturally even after making water percentages as high as 90 to 95 per cent.

Practice of Setting Casing

In general the practice of setting casing has been very uniform throughout the field. The most variation has been on the surface pipe. The length of this string is governed by the conditions encountered in each well. From the central portion of the field to the southern extremity 12½-inch casing is set on the Barstow sandstone at depths varying between 150 and 350 feet. To the north and east of the central part of the field cavities are often found in and below the Barstow sandstone. These cavities often cause the rotary drilling well to lose circulation with subsequent caving and sticking of rotary drill pipe. Therefore, it is usually desirable to shut off these cavities with casing. To attain this two methods are in common use, and the one used is usually decided upon according to the ideas of the individual operator. First: he may reduce the hole on the standstone and "rathole" ahead with a rock bit; if a cavity is encountered, he then reams the hole through it and runs casing. This method is usually considered more dangerous than the second method which involves starting a larger hole and setting 15½-inch casing on the sandstone and later running 12½-inch casing if a cavity is found. The hole can then usually be drilled to the top of the brown lime at which point the inner string of casing is set. This string is usually 8⅝-inch O. D., although low structural wells often run 6⅝-inch pipe and high wells run 9- or 9⅝-inch pipe. From this point on to the completion depth the lime walls of

the hole are usually firm enough to stand without casing or liners. In a few cases it has been necessary to run another string of casing in the lime to shut off caving ground, upper gas strata, or pays which have gone to water.

Methods of Completing Wells

Both cable tool and rotary methods are used for drilling wells to the pay in the Hendrick Pool after casing has been set on the top of the big lime.

Cable tools are used almost entirely on the lower part of the structure where upper gas strata has not been encountered, and rotaries are more popular in drilling in wells on the crest of the structure. This is due to many difficult and long drawn-out jobs with cable tools in high gas pressures and also to the necessity of having to drill under pressure thru upper stratas yielding as much as 10,000 barrels of oil and it is desired to drill to the lower more prolific producing zones.

Drilling in With Cable Tools

The writer has been in close touch with practically all the companies in the field, and it is the opinion of the majority that the cable tool method is the best for drilling into the pay, provided the above mentioned difficulties can be overcome. The reasons are: First, the operator knows at all times how much oil the well will make at the depth he is drilling; Second, there is no danger of mudding off pay zones; third, if water is encountered, the exact depth it is found is definitely known. Even though one cores all of his pay with rotary it is rather difficult to pick out formations bearing water from those producing oil.

Practically all wells in Winkler Field are now drilled with rotary to the top of lime, where casing is set and cemented. If it has been decided to complete with cable tools, the rotary is moved off; tools are then rigged up; the plug is drilled; and casing is tested. It requires approximately ten days to move off rotary and rig up cable tools. After this has been done and drilling resumed the average time for completing a well to the main pay zone, which is approximately 400 feet in the lime, is about twenty days, taking some ten days longer on an average than drilling in with rotary tools.

To overcome the difficulty of drilling through high gas pressures and large oil pay zones two types of high pressure oil savers have been used. One of these is the Craig Head, developed by Homer Craig to meet the above mentioned conditions when they were encountered in the prolific Mexican fields around Tampico.

The author was unable to obtain a drawing of the Craig Head; however, it consists of a plunger carrying a stuffing box on top, which packs off the drilling line. The plunger works through a stuffing box incorporated in an inner body that locks automatically into an outer body when tools are snubbed into the hole and releases as the top of the rope socket comes in contact with the head when tools are pulled out. Several wells have been successfully drilled in with this type of oil saver.

The other high pressure oil saver has been developed by the Roxana Petroleum Corporation for the same purpose. Figure 1 shows the details. It consists of the plunger of a plunger-type pump commonly used throughout the industry. This plunger has a stuffing box at the top where the wire line is packed off. The plunger runs through two cast iron liners taken from the above mentioned pump which act as a stuffing box for the plunger, and these liners are held in a steel jacket with ball and socket joint in the middle, allowing the plunger on the stroke of the beam to move in any direction without bending. This ball and socket joint is incorporated in an inner body which when snubbed into the outer body comes in contact with a rubber ring that has a bypass, allowing pressure from the well to rush behind and expand the ring. This acts on the same principle as C-Ring packing in that it is no more difficult to keep leakage from occurring with high pressure than it is with only a few pounds pressure. With this oil saver tools can be snubbed into the hole, and as the body makes contact with the rubber all flow is sealed off and the driller can then lock four bolts with handwheels holding the oil saver in place during drilling without encountering any oil or gas flow.

Some fifteen wells have been drilled in with this type oil saver with very satisfactory results. Therefore, it can be said as operators come to be more

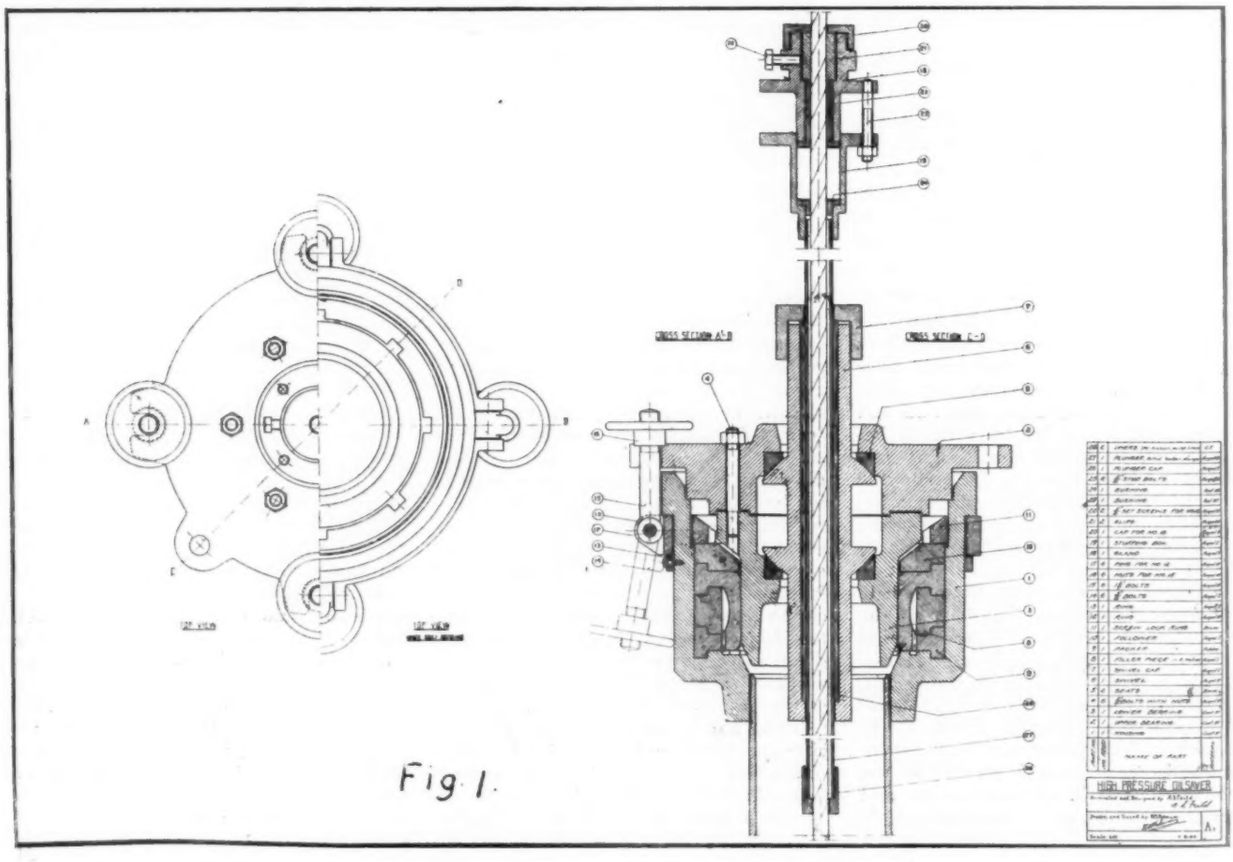
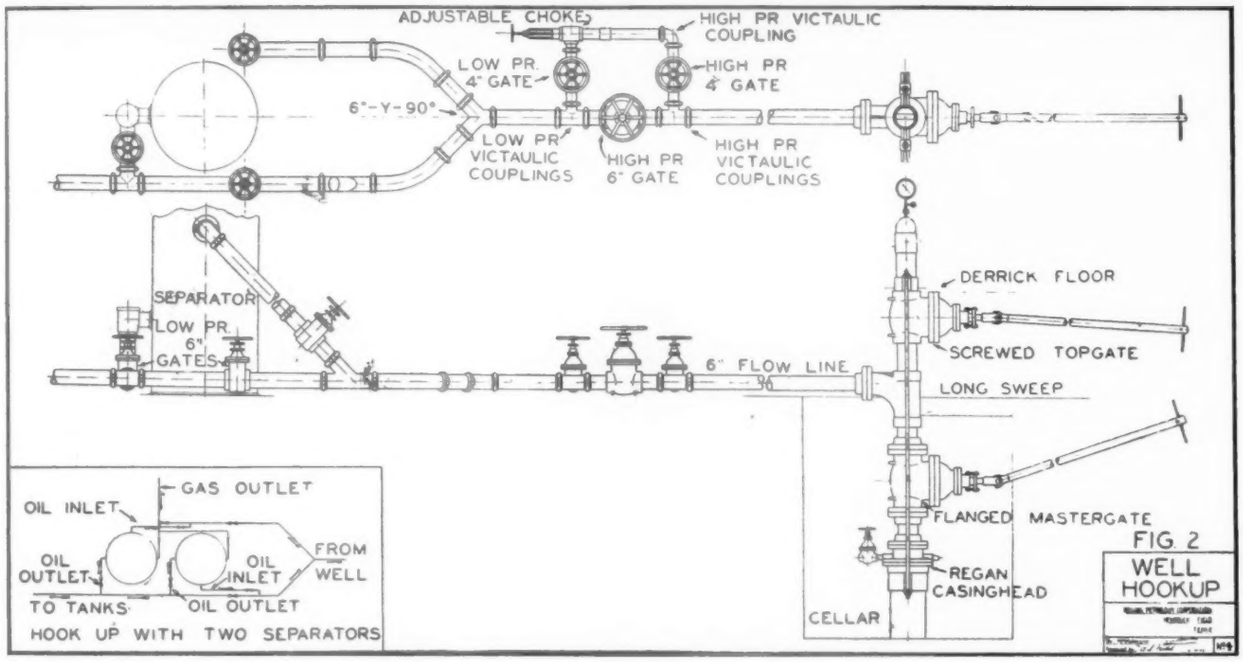


Fig. 1.



familiar with the operation of oil savers that will withstand high pressures, more cable tool drilling will be done in the future in all lime fields where heavy gas pressures formerly made it almost prohibitive.

Drilling in With Rotary

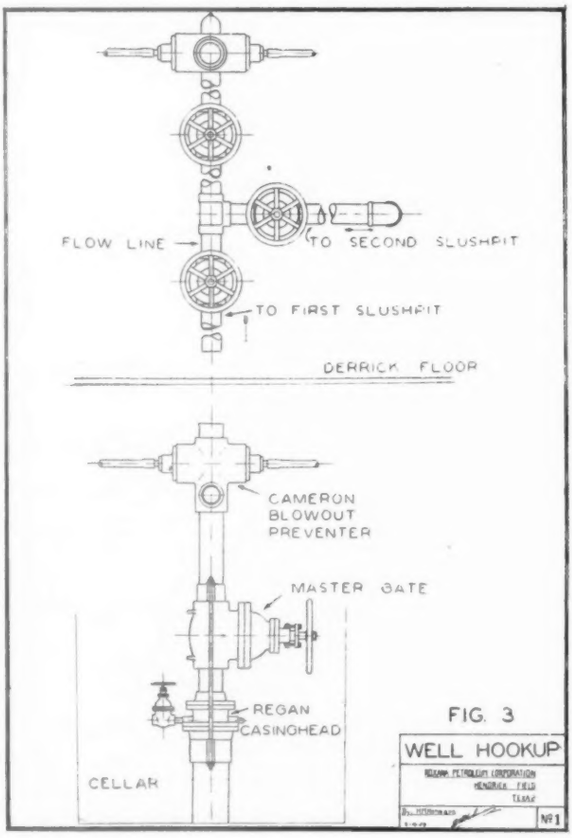
When wells are drilled in with rotary after having set pipe with this same method on top of lime it is only necessary to wait long enough for cement to set to drill the plug and test casing. After this has been done drilling is begun with clear water. It has been found that approximately twice the hole can be made with clear water as with mud. Therefore, all operators prefer to use clear water until increasing gas volumes prohibit its further use, then the wells are mudded up. This usually occurs around 300 feet in the lime. Gas strata are found, however, from the top of the lime to this depth which contain varying volumes of gas and in most cases by the use of a blowout preventer, such as the Cameron, which is popular, the drill pipe may be pulled off of bottom and the pressure sealed off with the rams and water forced back into the gas formation with high pump pressure. The required pressure can be obtained by compounding the ordinary pumps used with a rotary rig by which method the driller can build up as much as 1500 pounds pressure. Fig. 2 shows the blowout preventer hookup. Pumping the well by this method usually kills the gas for several hours, giving the driller enough time to make a roundtrip, change rock bit cones, and resume drilling.

There is no clay in the field. The closest suitable clay deposits are found at Jal, N. M., some twenty miles away, and the bulk of the supply comes from this source. However, some is hauled in from irrigation canals some forty miles away, and still another supply comes from the brick and pottery yards at El Paso. Therefore, mud is very expensive to manufacture. The material ranges in price from twelve to fourteen dollars a ton on the location. To prevent waste the clay is ground and sacked, and in this way can readily be mixed in steam boxes prepared for the purpose.

When drilling in with rotary most of the operators prefer to core the pay, and very good results have been had in core recovery as well as footage made with the core barrel. Two core barrels have been used. They are of the rock bit type and both have proved satisfactory. However, it has been noticed that when one gets a pay of considerable size with the rotary either returns are lost altogether or a considerable part of the mud is lost before the drill pipe can be pulled out of the hole. This indication of pay enables the operator to drill in without coring and feel fairly certain what he has before bringing his well in. After the well has been drilled in and before bailing, the wall is hooked up with "Christmas Tree" connections and gas trap set. After bailing, the well is choked and turned into the stock tanks.

Well Connections

Some very large wells have been encountered. The largest has been 69,000 barrels, and numerous wells have been drilled in making as much as 1000 barrels an hour. It is necessary to take out all friction in flow lines and set the separator as close to the well as possible in order to obtain the maximum possible production. Many tests have shown that any of the more popular



makes of separators approximating 4x16 feet in size will handle as much as 20,000 barrels of oil a day under the working pressure of the trap if large enough lines from the separator are laid to insure a minimum of line friction. This, of course, depends upon the length of the lines, et cetera.

Figure 3 illustrates the hook-up used by the Roxana Petroleum Corportation in the Hendrick Pool and which has proved very satisfactory. Instead of the ordinary cross tee that has generally been used on well hookups, the Roxana hook-up uses a long-sweep tee with a six-inch flange sweep. This eliminates all bends and turns in the flow line and allows a straight six-inch line to the gas trap. A "Y" has been provided just beyond the choke, and if necessary to set another trap, this line can be extended for that connection. The accompanying sketch is self-explanatory, and we consider it one of the simplest well hook-ups in the field.

Butte, Montana. — Texas Company has authorized the building of a warehouse and offices here to cost $100,000 following the visit of the sales manager of the company to Butte. The company has a bulk station at Butte and expects to be the principal distributing center for Texaco products in the northwestern states and southwestern Canada. Annual turnover from the station is estimated at $5,000,000.

ATTENDANCE RECORD OF GALVESTON MEETING

Texas, Louisiana, Arkansas Division of Development and Production Engineering, September 5-6.

Name, Company affiliation and Address

Abercrombie, J. S., J. S. Abercrombie Company, Houston.
Ames, E. R., Elliott Core Drilling Company, Houston.
Andrews, W. C., Cameron Iron Works, Houston.
Arnold, H. K., Humble Oil & Refining Company, Houston.

Bass, Frank, Humble Oil & Refining Company, Hull.
Bassett, Walter, Oil Well Supply Company, Fort Worth.
Behering, A. O., Humble Oil & Refining Company, Corsicana.
Bell, B. D., Humble Oil & Refining Company, Kingsville.
Black, L. J., Beaumont Iron Works Company, Beaumont.
Bowman, A. M., Humble Oil & Refining Company, Houston.
Brookover, W. D., Panhandle Refining Company, Wichita Falls.
Brown, M. L., Sun Oil Company, Olney.
Brown, S. R., Hughes Tool Company, Houston.
Bruer, Cliff, Atlantic Oil Company, Dallas.
Burnett, Robt., Humble Oil & Refining Company, Houston.

Cant, D. A., Regan Sales Company, Houston.
Cartright, L. H., Elliott Core Drilling Company, Houston.
Corruthers, F. S., Norvell-Wilder Hardware Company, Houston.
Childress, Sid T., Rio Bravo Oil Company, Houston.
Christy, R. H., Oil Well Supply Company, Houston.
Cochrum, Allen, Humble Oil & Refining Company, Hempstead.
Cochrum, L. E., Humble Oil & Refining Company, Liberty.
Contois, C. F., Gulf States Utilities Company, Lake Charles, La.
Corless, G. B., Humble Oil & Refining Company, Houston.

Dallas, Fred W., Rycade Oil Company, Houston.
Davidson, J. J., Humble Oil & Refining Company, West Columbia.
Davis, Russell G., Chain Belt Company, Houston.
Dieyer, W. C., Western Electric Manufacturing Company, Dallas.
Doherty, W. T., Humble Oil & Refining Company, Houston.
Dudley, Ray L., The Oil Weekly, Houston.

Edward, C. B., Lufkin Foundry & Machine Company, Houston.
Edwards, H. L., Humble Oil & Refining Company, Houston.
England, H. C., Sun Oil Company, Corsicana.

Feild, A. S., Roxana Petroleum Corporation, Pyote.
Fisher, C. S., Simms Oil Company, Okmulgee, Okla.
Fleldin, H. W., Hughes Tool Company, Houston.
Fondren, W. W., Humble Oil & Refining Company, Houston.
Fontaine, T. L., Humble Oil & Refining Company, Houston.
Rorster, R. R., Simms Oil Company, Corsicana.
Frame, David, Humble Oil & Refining Company, McCamey.

Gardner, Frank, Simms Oil Company, Dallas.
Getty, Fred T., Manufacturer, Jennings, La.
Goggins, E. F., Dunn Manufacturing Company, Oxnard, Calif.
Gordon, J. C., Pure Oil Company, Fort Worth.
Greenidge, S. M., Texas Pacific Coal & Oil Company, Thurber.
Halton, B. D., Humble Oil & Refining Company, Houston.
Hammett, D. M., Axelson Machine Company, Tulsa, Okla.
Hardcastle, J. A., Rycade Oil Company, Damon.
Hardison, Harvey, California Company, Colorado.
Harris, B. D., Humble Oil & Refining Company, Shreveport, La.
Harvey, E., Sun Oil Company, Beaumont.
Hassheider, J. H., Pure Oil Company, Houston.
Hogg, S. C., Texas Power & Light Company, Dallas.
Holloway, J. B., Simms Oil Company, Dallas.
Holmes, J. A., Southern Crude Oil Purchasing Company, Wickett.
Homer, C. H., Rycade Oil Company, Atchafalaya, La.
Hope, Alvin C., William Corporation of Texas, San Antonio.
Howard, H. C., Reed Roller Bit Company, Houston.
Hubbard, E. O., Gulf Production Company, Houston.
Hubbard, W. E., Humble Oil & Refining Company, Amarillo.
Hyitt, Roland, Moody Engineering Company, Pittsburgh, Pa.

Isaacks, J. D., The Oil Weekly, Houston.

Johnson, D. L., Pecos Valley Power & Light Company, Fort Worth.
Junk, A. T., Continental Oil Company, Wichita Falls.

Kelly, R. B., The Pure Oil Company, Fort Worth.
Kennon, Louis H., Rycade Oil Company, Houston.
Klingaman, George H., California Company, Iraan.

Land, Millard, Vacuum Oil Company, Lake Charles, La.
Lee, A. E., Roxana Petroleum Corporation, Brazoria.
Leidecker, F. L., Atlantic Oil Company, Dallas.
Lewis, L. E., Simms Oil Company, Odessa.
Lookabaugh, L. L., Roxana Petroleum Company, Dallas.

Name, Company affiliation and Address

Lorehn, E. L., Cameron Iron Works, Houston.
Lowrey, E. C., Roxana Petroleum Corp., Box 1092, Wichita Falls.

McCormick, J. B., Cisco.
McDowell, M. C., Rio Bravo Oil Company, Houston.
McEvoy, J. H., J. H. McEvoy Company, Houston.
McGuire, Ray B., Simms Oil Company, Breckenridge.
McKinney, L. E., Rio Bravo Oil Company, Beaumont.
McMillo, H. D., Humble Oil & Refining Company, Shreveport, La.
McPherson, J. O., Sun Oil Company, Houston.
Manning, M., Humble Oil & Refining Company, Houston.
Mangel, B. J., Atlantic Oil Production Company, Seminole, Okla.
Martin, John N., Allis-Chalmers Manufacturing Company, Dallas.
Maxwell, L. J., Lufkin Foundry & Machine Company, Houston.
Meier, Wallt, Atlantic Oil Production Company, Dallas.
Montrose, M. E., General Electric Company, Houston.
Moore, B. L., Humble Oil & Refining Company, Houston.
Morgan, Jas. A., Smith Separator Company, Tulsa, Okla.
Morris, C., Oil & Gas Journal, Tulsa, Okla.
Murray, Edw. F., Roxana Petroleum Company, Houston.

Oberg, S. W., Humble Oil & Refining Company, Houston.
O'Brien, J. W., Rio Bravo Oil Company, Pierce Junction.
O'Leary, George, Mission Sales Company, Houston.
Pack, R. W., Sun Oil Company, Beaumont.
Park, Linn K., Portable Rig Company, Houston.
Patrick, R. D., Houston Production Company, Hull.
Patten, H. E., Humble Oil & Refining Company, Corsicana.
Patterson, E. H., Roxana Petroleum Corporation, Houston.
Peters, L. C., Humble Oil & Refining Company, Smackover, Ark.
Plyler, R. V., Rio Bravo Oil Company, Saratoga.

Rasch, A. A., Peden Iron & Steel Company, Houston.
Rice, Fred. A., Humble Oil & Refining Company, Shreveport, La.
Ritter, John A., Sun Oil Company, Dallas.
Robinson, S. W., The Oil Weekly, Houston.
Rowley, A. M., Oil & Gas Journal, Tulsa, Oklahoma.

Sappington, K. L., Roxana Petroleum Corporation, McCamey.
Schneider, G. B., Sun Oil Company, Beaumont.
Schroeder, E. H., Southern Crude Oil Purchasing Co., Shreveport, La.
Schwarz, M. E., Rio Bravo Oil Company, Houston.
Scott, H. W., Simms Oil Company, Smackover, Ark.
Scott, W. W., Humble Oil & Refining Company, Houston.
Shanahan, M. H., Continental Oil Company, Wichita Falls.
Shapiro, Chas. H., Reed Roller Bit Company, Houston.
Siler, Ray B., Roxana Petroleum Company, Houston.
Smith, Allan J., Texas-Louisiana Power Co., Fort Worth.
Snyder, W. A., Atlantic Oil Producing Company, Tulsa, Okla.
Standefer, M. E., Humble Oil & Refining Co., Goose Creek.
Stanley, C. E., Humble Oil & Refining Co., Lockhart.
Stewart, J. H., Atlantic Oil Producing Co., Tulsa, Okla.
Stowell, W. O., Humble Oil & Refining Co., Houston.
Sturly, A. R., Mission Sales Company, Houston.
Suman, John R., Humble Oil & Refining Co., Houston.

Taney, D. M., Rycade Oil Company, Orange.
Taylor, Ben, Peden Iron & Steel Company, Houston.
Taylor, R. W., Simms Oil Company, Archer City.
Temple, Clyde V., Humble Oil & Refining Co., McCamey.
Thomas, J. Elmer, Tenner S. Beane Company, Fort Worth.
Thomas, W. C., Vacuum Oil Company, Houston.
Thornburg, D. H., Frick-Reid Supply Corporation, Houston.
Tollepsen, E. H., Roxana Petroleum Corp., Wichita Falls.
Trapp, E. J., Atlantic Oil Prod. Co., Tulsa, Okla.
Trout, W. C., Lufkin Foundry & Machine Co., Lufkin.

Vance, Harold, Marland Oil Company, Big Springs.
Vandoid, P. L., Roxana Petroleum Corp., Brazoria.
Vetter, J. M., Rio Bravo Oil Company, Houston.

Wagner, Paul, National Petroleum News, Houston.
Wallace, W. D., Humble Oil & Refining Co., Cisco.
Weathersby, H. B., A. M. Byers Company, Houston.
Welde, H. D., Humble Oil & Refining Company, Baytown.
Whiting, R. E., Atlantic Oil Company, Shreveport, La.
Williams, Neil, Oil & Gas Journal, Houston.
Word, T. T., T. T. Word Supply Company, Houston.

Young, C. A., American Petroleum Institute, Dallas.
Young, O. E., Humble Oil & Refining Company, McCamey.

Zaba, J., Rio Bravo Oil Company, 2202 LaBranch St., Houston.

Wire Line Lubrication

Simple method used by the Vacuum Oil Company helps to prolong life of drilling cables

By W. C. THOMAS

Manager of Drilling and Production, Vacuum Oil Company

Presented before the Texas, Louisiana, Arkansas Division of Development and Production Engineering at Galveston, September 5-6.

NO item in the list of drilling equipment has been so badly abused as the wire line. While many improvements in construction and material have been made by wire rope manufacturers, no serious consideration has been given to *field lubrication*. The manufacturers impragnate the cores of all lines with a lubricant to protect the line prior to being placed in service, but the main problem is the lubrication after having been placed in service.

The life of any piece of machinery is dependent upon adequate lubrication and the wire line is no exception. The life of a wire line is largely dependent upon the core. The lubricant placed in the core of the line at the factory will not lubricate the line adequately throughout its life, and additional lubrication must be furnished to proling the life of any line. Line service can be increased about 50 per cent. by proper field lubrication.

The following is a comparative test on non-lubricated and lubricated lines, both being 1-inch, 6 x 19 plow steel:

Non-lubricated lines, handling 4-inch drill stem.

Days used	Round trips	Hours	Depth
27	55	303½	0 to 3430 ft.

Lubricated lines, handling 4-inch drill stem

Days used	Round trips	Hours	Depth
53	110	696	0 to 4285 ft.

The above data shows conclusively that a lubricated line has a much longer life, resulting in a considerable amount of additional service over the non-lubricated line.

In another experiment a factory lubricated line was compared with a line heavily lubricated by our field forces, with the following result:

Factory lubricated line, 6 x 19 Plow Steel—Total tons miles handled, 461.6.

Specially lubricated line, 6 x 19 Plow Steel—Total tons miles handled, 847.1.

Both the above lines were tested by the same crew and were used under same conditions on the drilling rig.

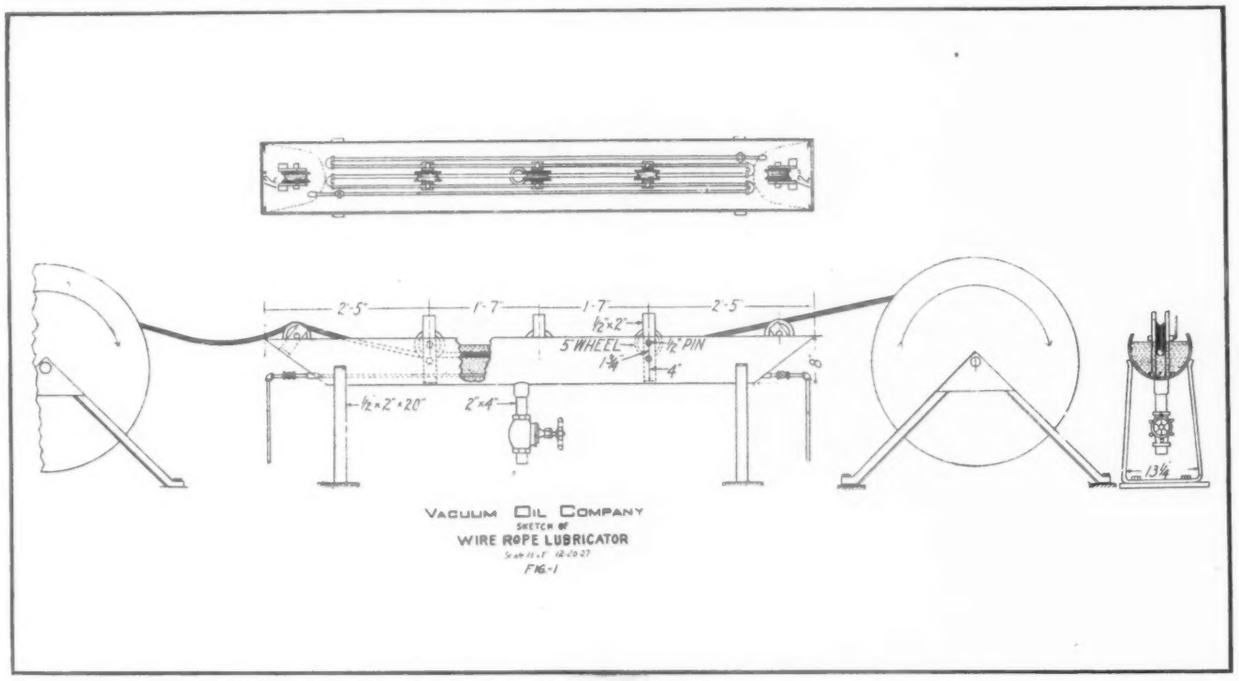
Generally speaking, a line after being placed in service is lubricated only by pouring either a can of crude oil or engine oil over the line after it is spooled on the hoisting drum. This practice does not provide adequate lubrication, since the greater portion of the oil is quickly thrown off and that which enters the line tends to deteriorate the factory lubricant contained in the core. After spooling a line on the hoisting drum it is good practice to apply a heavy lubricant daily to that portion of the line which runs on the drum.

A wire line lubricant must lubricate both externally and internally. The internal lubrication must penetrate the line until each individual wire becomes covered with a film of oil. The core must also receive lubrication to prevent deterioration of the lubricant initially contained. A new line placed in service soon becomes very oily, which is caused by the lubricant squeezed out of the core. After the core loses its lubricant, deterioration within the core is very rapid and the line begins to flatten and break. Where adequate field lubrication is furnished to the core, the core retains its original lubricant longer and the line retains its flexibility and original shape much longer.

External Lubrication

External lubrication has two functions. It must reduce deterioration and abrasion. A wire line is subject at all times to constant side wear on the line as it passes over the sheaves and wear is also caused by the line spooling over itself on the drum. Lubrication will certainly minimize such wear. The outside wires of the cable are constantly being covered with water and when a line is permitted to run dry this water quickly finds its way to the interior and causes oxidation or rust. After the wires become covered with rust the flexibility of the line is greatly reduced and the bending stresses become more detrimental. Water has no chance to enter if the outside of the line is covered with a lubricant which cannot be thrown off.

We now have to consider the kind of



VACUUM OIL COMPANY
SKETCH OF
WIRE ROPE LUBRICATOR
FIG-1

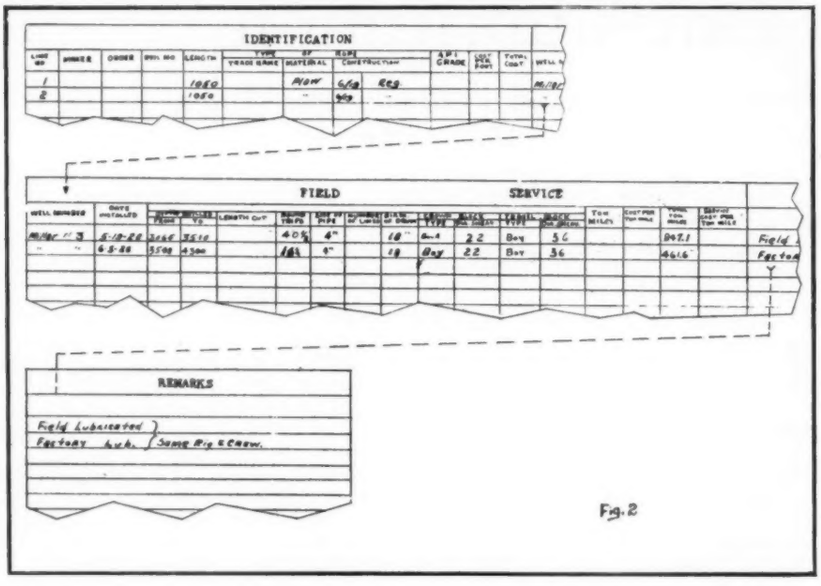


Fig. 2

lubricant to be used and the manner of application.

Two important factors should be considered when selecting the lubricant for this work. First, it must be of such a nature as to penetrate the line, and second, must remain on the line after application. The oil used in the experiments discussed hereinbefore is a very heavy lubricant, the name of which will be gladly furnished by the writer upon request.

The manner of application for field use must be one which will not require a great length of time and at the same time be very simple. Such a lubricator illustrated in Figure 1 has been used by the Vacuum Oil Company in the Lockport (Louisiana) area for the past 24 months. This lubricator can be constructed in any oil field machine shop. The trough can be made from old casing.

Permanent Lubricating Station

A permanent lubricating station where steam is available for heating the oil permits the lines to be lubricated as received and stored until needed. Upon receipt of a line the oil is heated to the boiling point and that temperature is maintained until the line is lubricated thoroughly. The line is passed through the hot oil at the rate of 10 feet per minute and three men can perform the operation with ease. Each line requires about 15 gallons to lubricate thoroughly. After lines are lubricated and placed in storage they should be moved from time to time to prevent lubricant from draining off.

Figure 2 shows a comparative record of factory lubricated lines against lines specially lubricated by our field forces. This chart clearly shows the importance of wire line lubrication, but there is another factor which also must be considered—that of equipment. The larger the hoisting drum and sheaves in both the traveling and crown blocks the better the results. These tests were made on drums with spools 18 inches in diameter, 36-inch sheaves in traveling block and four 22-inch sheaves and one 28-inch sheave in crown block.

The information contained in this report is offered to users of wire lines in the hope that they may benefit from our experience with lubricated lines as compared with non-lubricated lines. Any further information desired, not covered in this report, will be gladly furnished upon request by the writer or by any of our field forces.

Gulf Has Second Well On Fannette Dome

Houston.—Gulf Production Company's Bordages 6 at Fannett, Jefferson County, has been put on the pump, and although a full 24-hour test has not yet been made, the indications are that the well will be good for 250 barrels a day. The depth of the hole is around 4760 feet.

Gulf Production Company has exclusive control of the salt dome on which the well is located. The dome was outlined as such through geophysical work.

Although the Gulf has drilled numerous tests there, the present producer is only the second for the field, the first having been a small pumper of little consequence in so far as production was concerned.

The Fannett dome is about eight miles northwest of Beaumont.

Oklahoma City Test Again Makes Gas

Oklahoma City.—Indian Territory Illuminating Oil Company's important wildcat test not far from the southeast edge of Oklahoma City's residential district, which stirred operators to action late in July by unexpectedly hitting big gas in Tonkawa sand at 3997-4018 feet, again forced itself into the limelight early last week by flowing wild at the rate of 40,000,000 cubic feet from sand at 4798-4825 feet. The pressure was sufficient to clear the hole of heavy rotary mud.

The new sand in this outstanding test, Oklahoma City 1, located in the center of the southeast of the southeast of Section 24-11-3w, Oklahoma County, is reported to be the Layton formation, which likens the structural conditions of the area to that in the deep Logan County production. The first big gas, 30,000,000 feet, came from the Tonkawa series at a slightly higher point than fair production has been obtained from the Lovell and Marshall fields. The Layton has also been productive in the Logan County fields, generally at around 4700 feet. Wilcox sand is destined to be the goal of Indian Territory's wildcat, and drilling was to be resumed when the gas flow could be mudded off. This work was underway September 7.

The first gas strike in the Oklahoma City 1 test brought dry gas but that of the Layton sand strike tests fairly wet, with tests showing a highly volatile casinghead product.

Again the new strike stirs up enthusiasm for further acreage blocking in the Oklahoma City vicinity, and acreage 15 miles from the location was running as high as $20 late in the week. Considerable royalty buying was in progress through the week, with deals running to big figures.

Bids Accepted on Bunker Fuel Needs

Washington.—Bids of the Gulf Refining Company of Pittsburgh to furnish Merchant Fleet Corporation vessels with bunker fuel oil at Gulf and South Atlantic ports have been accepted. In accordance with the bids, the company will furnish about 75,000 barrels of oil per month during a three year period. It will furnish the oil, terminal delivery, at Charles, Savannah, and Jacksonville for 90 cents per barrel; and at Port Tampa for 93 cents. Competing with the Gulf Refining Company bid were seven others, which were rejected. The Gulf Company was also successful recently in obtaining the contract for supplying fuel oil for Shipping Board vessels at other Atlantic and Gulf ports at the rate of about 750,000 barrels per month.

Only Six Completions For Panhandle

Amarillo, Texas—The past week was a quiet one in the Texas Panhandle fields, there being only six completions. Five of these were producers, however, with a total combined initial output of 295 barrels.

The failure was Caldwell et al's J. Adriance Estate 1, in Hansford County, abandoned at 3233 feet.

New locations for the Panhandle announced this week total seven. Of these three are for Gray County, one for Hutchinson, two for Moore and one for Wheeler.

Iraan, Texas—Four oil field workmen employed by the McMan Oil & Gas Company in the Yates field, were injured and had to be given first aid treatment when the control head was blown off Smith No. 2. The well was making better than 40,000,000 feet of gas when the control head gave way. None of the injuries were serious.

Long Beach Will Be Critical Factor For Sometime

Two record breaking producers indicate that field has a long way to go before it can be counted out of the picture

By BRAD MILLS
Staff Representative

LOS ANGELES.—Efforts to bury the Long Beach field appear somewhat untimely, judging from the completion during the week of the largest well finished since the re-development campaign began a year ago, and the almost sudden rise of production to approximately the peak of two months ago. Only three large wells were required to turn a steady decline into a bulge which compares favorably with any spurt the field has demonstrated during the year.

Field figures compiled by one major company show a new peak, but in the absence of official data, it is difficult to estimate production at the end of the week. The actual increase was more than 8000 barrels, however, sending the field total well above 200,000 barrels. The field showed a flash of its old form, after going through a period which was anything but impressive. About 20 small wells were completed in rapid succession, and many of these showed a high percentage of water. The average initial production fell from 2000 barrels to below 1000 barrels, indicating that the gas pressure was waning.

Two Record Breakers

The rapid completion of three wells, two of which were record breakers, has changed the situation for the present. It means that predictions that the field would have a flat peak over a long period were correct and that production, once it attained an approximate peak, would describe many "saw teeth" in the curve describing the maximum output. The completion of two record wells does not necessarily mean that production will soar far into new territory, but it does mean that Long Beach will be a critical factor much longer than generally supposed. About 185 wells are drilling and the decline will be very gradual at best. More than 20 wells are drilling below 7000 feet, with five times as many below 5000 feet.

Richfield's Meader 1, the new record well, was completed at 6735 feet with an initial production of 6750 barrels. The new producer is located in the southwestern part of the field and in a little-developed area. Richfield also completed R. C. 8 as a 3000-barrel producer from 6758 feet. In addition to being the largest well yet completed in the field, Meader 1 is producing a 31.3 gravity oil, which is showing an extremely small cut. Richfield has been one of the most active operators in the re-development of the field, and probably the most successful. The company has risen from a mediocre position to one of dominance in the field within a year.

The Texas Company added to its list of producers Harlow Kent 10, which was completed with an initial production of 2800 barrels from 7227 feet. The oil was 30 gravity and showed a cut of 3.2 per cent.

Deep Test

One of the most interesting drilling wells in the field is the State Company's No. 1, which will be completed below 8000 feet, barring mechanical difficulties. Drilling has been stopped just below this point and only a few hundred feet of the bottom formation will be included in the production test. The well is located on an edge tract and the extreme pitch of the structure a this point makes it possible to drill in a comparatively thin body of oil sand for several hundred feet. If successfully completed as an oil well, it will be the deepest commercial producer in California.

Operators have adopted the "don't cross the bridge until you have reached it" policy in the Santa Fe Springs field and refuse to become alarmed over the expected flood of crude until it has actually arrived. The field is without doubt a disturbing factor, but so little is known of the value or extent of the zone all are striving to reach that worry about overproduction seems to hold little place in the situation. Nearly 100 wells are under way, with more than 50 additional locations in readiness for the march downward at the first favorable sign. Shell's Slusher 12 is the deepest drilling well and is now approaching 5500 feet, the point at which coring will begin. The status of the field is about the same as last week, so far as actual knowledge of the new zone is concerned. All drilling wells are much deeper, but few have passed the point from which the old production is coming.

Potrero Well High

Cypress 3, the Associated's fifth well in the Potrero field, apparently is much higher on structure than the discovery well or other subsequent tests. The oil sand was picked up around 3250 feet, or more than 1000 feet higher than in either Cypress 1 or 2. The hole is being reamed preparatory to cementing 11-inch casing at 3250 feet. The well was drilled to 3375 feet. It is possible that the zone encountered is a shallower sand, however. The field has not been drilled extensively enough to correllate the various thin layers of oil sand found at different levels.

No definite announcement has been made concerning the exploration of the deep sand in the Inglewood field, although it is known that the Petroleum Securities Company is considering a deep test to gain a knowledge of sand conditions. Although the company states it has no intention of developing a large production, it is possible that an attempt to explore the lower levels would result in increased operations on the part of several other companies.

The Petroleum Securities Company is deepening Cohn 3 in the Inglewood field, but states that the operation is being conducted purely as an exploratory measure and is not a move toward re-developing the field. Cohn 3 already has three strings of perforated pipe and does not seem an ideal well for deepening.

The Richfield Oil Company has located a wildcat test in the San Jose Hills, Section 9-2-11, about one mile east of Puente. The well is about midway between the Montebello and Whittier fields and about a mile and one-half from the nearest production.

Hawthorne Not So Good

The major operators continue to frown on the new Hawthorne field, the newest producing area in the Los Angeles basin. What ordinarily would have precipitated an orgy of drilling, was snubbed by the largest oil companies, on the strength of actual experience in the district. The new field has a very bad history to live down and a 150-barrel discovery well was received somewhat coolly in oil circles. Probably 20 wells had been drilled on three sides of the San Clemente's discovery well and all were failures for one reason or another. When a commercial well was completed, it was regarded as a test which was fortunate enough to produce from one of the layers of oil sand found in the vicinity. The depth of the well—almost 6000 feet—has had a bad effect on development in general, it being conceded that a small production at such a level is a ticklish proposition, especially so, when the possibility of a faulty water shutoff is considered. The opinion of the majority of geologists does not definitely condemn the field, however, and futher development may disclose a very satisfactory producing area. San Clemente's discovery well still is producing about 140 barrels of clean oil. The Smith Petroleum Company is drilling at

3000 feet in Peck 1, which is located only 500 feet northeast of the San Clemente well.

The Petroleum Securities Company has not yet drilled out the cement in McNally 1, a wildcat test near the West Coyote field, but expects to make a final production test early next week. The well was drilled to 5498 feet, with streaks of oil sand occurring at irregular intervals below 5436 feet. About 20 feet of the formation seemed to contain oil enough for a successful test.

The Shell Company sprang one of its irregular surprises in the Brea-Olinda field by completing Orange 17 as a 2100-barrel producer from 5243 feet. Ordinarily wells in this field are small, but occasionally a large one is completed in a fault running through the structure. The present production from the 400 wells is only 13,500 barrels.

Additional depth has failed to improve the outlook of W. W. Stabler's Tejon 1, Section 23-32-29, a test of the Comanche Point area in the extreme eastern part of the San Joaquin valley. The well was tested around 2600 feet, but failed to make an oil well after staging a mild demonstration. The first 100 feet below the first testing point showed a small cut, but the thin layers of oil sand were of little consequence. The well is temporarily tied up with a fishing job, the drill pipe having parted at 2860 feet. The Comanche Point district lies along the arc of a vast semicircle which extends from Wheeler Ridge on the south to the Kern River district on the north. It lines up roughly with a fault line which extends through the Union Avenue and Fruitvale areas near Bakersfield. The outcropping shales nearby are somewhat similar to those coming to the surface near Kern River, Mt. Poso and Round Mountain.

May Get Extension

A. L. Marsten, independent operator, stands an excellent chance of extending the Fruitvale field nearly a mile, following the discovery of more than 50 feet of oil sand in his No. 1, Section 27-29-27. The top of the sand was found at 3725 feet and extended below 3775 feet, tne total depth of the hole being 3790 feet. A string of 10-inch casing has been set at 3720 feet for a production test. The log of the well indicates that Marsten is located equally as high on the structure as the discovery well, although it is too early to make such a statement without reservations. A test will reveal whether the formation in question is the one found productive in the proven part of the field. Pacific Eastern Production Company, discoverer of the field, is drilling at 5675 feet in KCL 1, but has not encountered a good showing since passing the upper zone. This well originally produced from 3850 feet, but was deepened after two subsequent completions were effected in the upper and only known producing sand. All three wells were about the same size, making the exploration of the lower sands the most logical course to pursue, since it was practically proved that the discovery sand would chiefly yield pumping wells.

Regardless of the size of the field or the action of the first few producers over a long period, the Barnsdall-Rio Grande Luton Bell 1, the discovery well in the new Elwood field, has proved to be unusual in many respects. Met with a rather cool reception by many who believed that a 2500-barrel well was a freak in this part of Santa Barbara County, the discovery nevertheless attracted wide attention. The well has produced for six weeks at a uniform rate and has demonstrated that it is capable of flowing upward of 5000 barrels if given a free rein.

Los Angeles, California — The Empire Petroleum Company has completed number 41 in the Los Cerritos extension of the Long Beach field with an initial production of 1500 barrels from 6480 feet, thus proving the deep sand productive in this area also. The well sanded up and stopped flowing after a short time. The discovery is very important and will undoubtedly cause a rush for this extension.

The new Elwood field is admittedly one of probably 15 structures in this part of California, and the fact that many have anything but a brilliant past has dampened much of the enthusiasm concerning its performance over a period of years. This prejudice will undoubtedly be set aside if Luton Bell 1 continues to produce 2500 barrels of 38 gravity oil. The structure probably will be a small one—containing not much more than 1200 acres, and probably less. It is fairly well defined and has been known for years. The failure of nearby structures largely accounted for the fact that it had not been drilled. Barnsdall and Rio Grande have disposed of several tracts not regarded as lying along the crest of the new field.

This disposition of the ledge leases alone has considerably more than paid for the total expenditure to date. The two companies are drilling a second well, and, barring mechanical difficulties, should complete the test within two weeks. The discovery well was completed in about a month, the oil zone lying just below 3000 feet. The unusual depth at which production is found, the ease of drilling and the small expense incurred in marketing the oil combine to make the field very attractive to many of the major companies, although the available leases are not very favorably located, at least if surface indications prove correct. The failure of the Goleta field apparently should have no effect on the action of the Elwood field, since the former produced from an entirely different zone.

Rincon to Front Again

After several months of uninteresting developments, the discovery of 20 feet of rich oil sand in Richfield's Hobson Fee 1, has revived interest in the Rincon field, which has had a rather colorful history since its discovery last fall. The oil sand was cored between 6438 and 6458 feet and may mark the discovery of the long-expected deep zone. It seems unwise to become excited about the sand, however, as many promising developments have fallen by the wayside in rapid succession. If the new zone proves to be only 20 or 30 feet thick, there is a possibility that the well will not be even a commercial producer at such a great depth. A similar body of sand was found around 4000 feet, but the formation failed to develop into a producing zone. The Rincon field started in a blaze of excitement, more than a dozen rigs springing up almost over night, following Pan American's discovery of a well that would at least flow a combination of oil and water. The discovery well was not a true indication of the shallow zone, however, as many operators have found by experience. The well flowed prematurely from around the shoe, but when officially placed on a production test, it refused to perform in a satisfactory manner, as had been the case in the first place. Twenty wells have been completed, but production lingers around 3000 barrels. An area that started in a rather wild manner has become very tame, by virtue of its own performance. A dozen wells are still drilling, but disregarding Richfield's interesting deep test, little is expected of the field.

In sharp contrast to many other wells completed on the same lease, the Petroleum Securities Company has brought in Orton 8 at only 5595 feet, making it one of the shallowest wells yet finished in this part of the Ventura field. Initial production was 1800 barrels of 30.1 gravity oil. The Orton lease has long been considered an edge tract and wells have been completed from 6200 to 7100 feet. Apparently Orton 8 was completed in an intermediate zone. If this is the case, the theory that the M. K. and T. Oil Company's Foster 1 is producing from a fault, rather than from a true sand, must be discarded. The M. K. and T. well is located only a few hundred feet from Orton 8 and was completed at a depth which places the two wells on a common footing. It is possible that Orton 8 is also located on a fault, but such a theory is doubtful. Associated has completed Lloyd 54 as a 1300-barrel producer from 6600 feet. Shell's Gosnell 26, located in the southern part of the field, gave a good account of itself, producing 2300 barrels of 29.6 gravity oil from 7196 feet on the initial test. Field production is still well above 50,000 barrels, despite the fact that around 20 per cent of the maximum yield is shut in under the proration agreement reached last fall by the major operators.

The Pacific Eastern Production Company, still intent upon developing commercial production in the Union Avenue district—at least, if it is there—is making unusual time in drilling both KCL 4 and Hughes Community 1, the fourth and fifth tests in this area, which has looked both good and bad at intervals during the past year. The former is drilling at 3350 feet, with the latter showing a burst of speed at 2668 feet. The company has been benefitted by the experience gained in drilling the first three wells, two of which were virtual failures, with the third now rated as a comemrcial gas well. Developments to date easily warrant further exploration in the district.

Yates Pool Daily Potential Now 3,425,923 Barrels

Old wells drilled deeper show heavy increase in production—Chalk district is active spot

By A. R. McTEE
Staff Representative

SAN ANGELO, Texas.—Latest proration figures for the Yates field, Pecos County, as announced by the field umpire Ray Richmond, showed the field to have a total potential of 3,425,923 barrels with a daily average potential of 1,702,440 barrels. This output was from 248 wells and 130.5 production units.

Total daily allowance according to the report is 72,502 barrels. According to the official statement of the umpire, 32 wells in the pool were showing water on September 1. With the exception of Roxana Petroleum Corporation's M. S. Smith 6, all the other wells making water are located either along the edge of the pool or along the Pecos River.

At the gauge taken on September 1, 17 wells were tested. Of this number 10 were wells that have been deepened recently, four were old wells re-tested and three were new completions.

Old Wells Deepened

Three wells were reported as completions this week, but these were old wells which have been deepened. Each showed a heavy increase in initial production, however, as compared with the original output.

A recent check shows about 43 operations in Pecos County, most of them in the Yates pool. These include drilling wells, wells shut-down, and rigs up.

As a result of the proration figures, production in the Yates district showed a gain of approximately 13,000 barrels this week as compared with last.

New locations announced for West Texas totaled 20. Most of these were for tests to be drilled in Winkler and Howard Counties.

Pipe line runs for the entire West Texas district during the week ending September 6, totaled 204,451 barrels daily average.

Chalk Area Busy

The Chalk district, Howard County, continues as the busiest spot outside the Permian Basin, in West Texas. There are now about 50 operations in the field and eight new locations were announced this week.

Transportation facilities to the field are being pushed rapidly: Humble is stringing pipe for its line from Kemper to the field; Cosden is also stringing his line and the Big Springs Pipe Line Company has nearly completed its line from the area to Big Springs. Cosden has also erected 20,000 barrel of storage, one 10,000 barrel tank in the south one-half of Section 129, Block 29 W& NW; he is grading for another tank of the same size in the north one-half of Section 129. Cosden is to build 2 55,000 barrels tanks in the same section.

Magnolia is now running 3,000 barrels of oil per day from the field through its 6-inch line to the Bell Tank Farm, Winkler County. Shell Pipe Line is also taking 17,000 barrels daily from the field through its trunk line to Healdton, Oklahoma, which line passes near the field. It is reported that the Big Springs Pipe Line Company has contracted to take 2500 barrels of Howard County crude from Merrick and Bristow. The four-inch line being operated by the Big Springs Company has a capacity of from 3500 to 4000 barrels daily.

But one small well was completed in Howard County during the past week, and it made 136 barrels from 1574 feet.

Winkler County showed the heaviest completions for the past week with 15 wells reported. Of this number 13 were producers yielding initial production estimated at 163,560 barrels. Because of proration, wells are not allowed to flow except for brief periods and after being completed the new wells are generally flowed for one hour. The biggest producer completed was Atlantic and Collett's T. G. Hendrick 1, estimated to be good for 30,000 barrels from 2780 feet. Roxana and The Texas Company got two 24,000 barrel producers among their four completions; Skelly Oil Company got a 24,000 barrel well, and Southern Crude Oil Purchasing Company completed one good for 5040 barrels. There were several 2000 barrel producers. Atlantic's Grisham-Hunter 5 was a failure at 2200 feet, as was Southern Crude Oil Purchasing Company's Ida Hendrick 1-3-T-67-A, at 3202 feet.

Other Completions

Other completions included a 136 barrels producer in Howard County, an 89-barrel producer in Jones County, a 1200-barrel well in the Yates field, and a 190-barrel producer in the Church and Fields area, Crane County.

YATES FIELD PRORATION

Estimated potential daily production in the Yates field, Pecos County, Texas, on September 1 amounted to 3,425,923 barrels from 248 wells on 130.5 units. The following official proration figures show the allowable daily production for each operator for the first half of September:

Company—	Units	No. of Wells	Total Potential Production	Average Potential Production	Total Allowance
The California Company ..	17	33	722,877	254,234	10,608
Cosby et al	1	1	35	35	140
Dixie Oil Company	1	1	25	25	140
Grayburg Oil Company	1	3	150	50	141
Gulf Production Company ..	18	29	317,961	238,799	10,126
Humble Oil & Ref. Co.	10	13	44,435	29,763	2,340
Kirby Petroleum Company..	1	1	70	70	141
Kirby & Edson	1	1	472	472	156
McMan Oil & Gas Co.	6.8	8	92,745	55,030	2,698
McMan & Marland	7	17	293,572	102,608	4,698
Marland Oil Company	2	10	72,425	65,891	2,381
Matador Oil Company	1	1	7,224	7,224	370
Mid-Kan. & Transcontinental	43.3	88	1,391,112	690,965	28,000
Oil Operators Trust	1	7	15,002	2,143	207
Phillips Petroleum Co.	1	1	125	125	143
Red Bank Oil Company ...	1	3	2,539	846	166
Roxana Petroleum Corp. ...	11.4	20	160,527	79,127	4,110
Savoy & Mazda	1	3	7,330	2,443	217
Simms Oil Company	4	7	297,147	172,440	6,028
Skelly Oil Company	1	1	150	150	144
Total	130.5	248	3,425,923	1,703,440	72,502
August 1	127.5	242	2,997,252	.....	65,000

Several West Texas Wildcats Indicate New Production

Fort Worth, Texas.—The several wildcats which have been getting most of the attention given to West Texas during the past two weeks have shown little new development up to this time. None of the wells can be called commercial producers yet, notwithstanding the fact that there have been some good showings.

Toward the close of last week interest shifted from Menard County to the Winkler County district, south of the Hendrick pool proper. Sid Richardson et al's O'Brien-Stockton 1 developed good shows of both oil and gas and gives strong indication of marking an extension to the Winkler district. The well is located in the northeast corner of Section 50, Block F. Elevation of the well is 2729 feet. A strong showing of oil was found at 2740 feet; a gas show was picked up at 2765 feet, more oil and gas at 2805-15 feet at which depth the hole bridged up, 200 feet from the bottom. A bailer of 31.6 gravity oil was being secured about every two hours before the well was cleaned out. After cleaning out to bottom, 2815 feet, the hole filled up to 1200 feet with oil. A joint of five-inch casing was set and the hole deepened but there was no increase in the oil during the next two feet. No announcement has been made as to how deep the hole will be drilled in an effort to make a producer.

Texas Pacific Coal and Oil Company has cemented off the water which showed up in its Daugherty 1 and is now waiting on cement to set before testing the well. This well is located in the Llano area north of the Hendrick pool proper, located in the southeast corner of Section 4, Block 74. Last week the well bailed sulphur water to within 200 feet of the bottom of the hole at 3243 feet. Plans are to now test the well at 3200 feet.

Roxana and Llano Oil Company's Scarborough 3, another test in the Llano area which is being watched with interest is reported shut down this week at 3455 feet with 1200 feet of salt water in the hole. This well has an elevation of 2939 feet, topped the salt at 1280 feet, and got the lime at 2972 feet.

No change in the status of the Panhandle Oil and Refining Company's Eckhardt 1, Menard County, has been announced. The last report showed the well shut down to cement casing at 2970 feet. About 950 feet of fluid was reported in the hole and owners of the well estimated that it would probably make between 40 and 50 barrels of oil.

Deep Rock Oil Company's Harris 1 located in the center of the southeast quarter of Section 12, Block A-46, Andrews County, was deepened without any increase in the showing which was found last week. The well has been standing for nearly two weeks at 4410 feet with oil reported in the hole. At this time the hole has been deepened to 4430 feet. Before deepening the well was bailed and made five barrels of oil with about the same amount of water. Gravity of the oil is about 30.1. The well has an elevation of 3167 feet. It topped the salt at 1690 feet and got the lime at 4005 feet. A gas sand that showed about 1,000,000 feet of gas was reported at 2946 feet; there was a show of oil at 4210-63 feet and another at 4270 feet. Considerable acreage has changed hands on the strength of the showings found in the well and Deep Rock Oil Company, believing Harris No. 1 to be on the edge of a pool is now moving in materials for Harris No. 2. Location of the second test is to be 2310 feet from the south and east lines of Section 20, Block A-46.

The California Company is to drill a deep test in the northwest quarter of section 19, Block E, University Land, Hudspeth County. Contract for the well has not been let yet, but will be shortly.

Snowden-McSweeney's Bickley 1, in Jones County, was deepened from 2484 to 2490 feet and increased its flow considerably. Offsets to the Bickley well have been staked by its owners, McMan Oil and Gas Company, Cosden and Company, Sinclair Oil and Gas Company and Independent Oil and Gas Company. These offsets are to be on the east, south and north sides of the producer.

Wildcat completions in the West Texas district for the week just ended included three failures and a small producer in the Chalk district, Howard County.

Taking the district as a whole there is a good deal of activity with tests being undertaken in rank wildcat territory each week. There are at the same time many inactive tests scattered over the territory and fully one-third of the wells included on the report of wildcat operations are shut down.

Greyback Pool Is Active North Texas Area This Week

Wichita Falls, Texas—With a dozen new completions reported this week, and all of them producers, with the exception of one, and all the producers located on the Waggoner ranch, in the Greyback pool, that district stands out as the ranking spot in North Texas activity. A short time ago there was difficulty in this area on account of water shortage and a good many drilling tests had to be shut down. With this obstacle removed, the operators are pushing their wells to completion.

New locations for the North Texas district for the week were distributed as follows: Archer County 9, Brown County 10, Coleman County 2, Comanche County 1, Eastland County 1, Foard County 1, Shackelford County 7, Wichita County 2, Wilbarger County 26, and Young County 10, a total of 70. From these it can be seen that activity is centered in Wilbarger County where the Greyback pool is located.

Next to Wilbarger County came Young County. The latter showed more completions than Wilbarger, but fewer producers and much smaller wells. Archer County reported six producers out of nine completions.

The Texas Company made a slight extension to the Harmel field in Southwestern Archer County with a 250 barrel well. The extension was discovered in June by C. W. Gilliland with his Neimeyer 1, a 50-barrel producer. Larger wells are now being discovered northwest of the Neimeyer well and present activity points to more drilling.

Three locations for new wells were announced in the edge of the old Swastika field, Southwest Archer County.

Clay County reported a 140,000-foot gas well in the Lone Star Gas Company's Skelly Fee 11, which was completed at 1373 feet.

In the Central-West Texas district, Brown County showed the most completions. Most of these, however, were of routine nature and do not have special significance. There were only four producers out of ten completions; one well was good for 2,000,000 feet of gas and the rest were failures.

Comanche County reported a 30-barrel producer; Callahan County had one producer good for 63 barrels and one failure; Coleman County showed six failures and a pumper which made five barrels; Eastland County had two small producers and a failure, and Shackelford County reported two producers along with two failures.

Production for the Wichita Falls district was off 2780 barrels as compared with one week ago. The Central-West Texas area increased its output 330 barrels. Panhandle showed gains totaling 2100 barrels.

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S. W. MEALS, *Chairman, Natural Gas Dept.,*
AMERICAN GAS ASSOCIATION.

Photo by Bachrach

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Say you saw it in The OIL WEEKLY

Humble Plans Line to Handle Raccoon Bend Output

Oil now being put in earthen storage---Three new locations made following two deep completions

By JACK LOGAN
Staff Representative

HOUSTON.—Following the completion of its Bracey 1 and its Gotosky 3 as the second and third deep producers at Raccoon Bend, Austin County, the Humble Oil & Refining Company has made three new locations in the field, including one which is already drilling below 300 feet; and is making plans for the field's first pipe line outlet. Although the pipe line plans have not been completed, they will probably call for an eight-inch line to connect with Humble's main line, a distance of about 30 miles.

The only available storage in the field at present is an earthen tank, and the production of the wells, for this reason, is pinched considerably.

A report on the wells early this week showed that the Gotosky 2 and Gotosky 3 together were flowing 2110 barrels of fluid, of which 1710 barrels was net oil. The Gotosky 3 is still making pipe line oil, all the water being from the No. 2. The latter, the Gotosky 2, was the first deep producer of the field. It was completed the latter part of January, this year. The Humble's Bracey 1, the other new deep well of the field, according to the recent report, was making 250 barrels of pipe line oil per day.

The three new locations of the Humble Oil & Refining Company at Raccoon Bend are the Kearns 1, Urban 2, and Grawunder B-1. The Kearns 1, which was drilling early this week at 301 feet in shale, is located about 8000 feet due north of the Gotosky 2, discovery well, and about 2000 feet northwest of the Bracey 1. The exact location is 750 feet from the east line and 1350 feet from the south line of the Kearns 175 acres in the W. C. White league.

Humble's Urban 2, for which a derrick has already been erected, is 4300 feet northeast of the Gotosky 2, being 400 feet from the east line and 1300 feet from the south line of a 50-acre tract in the W. C. White league.

The third new location, Grawunder B-1, is 850 feet east of the Gotosky 2.

The Raccoon Bend field is about 12 miles due east of the town of Bellville.

The new large wells, on the Bracey and Gotosky lands, are around 3300 feet deep. In addition, some small oil and gas producers have been completed in the area from around 1000 feet.

Associated with the Humble Oil & Refining Company in the Raccoon Bend property are the Valley Oil Corporation, of which H. T. Staiti of Houston is the head, and Harry Pennington of San Antonio, mechanical engineer, independent operator, and oil field equipment manufacturer. Those allied interests control most of the acreage in the district.

Mr. Pennington, basing hopes for production on surface indications, blocked up 22,000 acres of leases, and subsequently made arrangements with the Valley Oil Corporation and with the Humble Oil & Refining Company for the development of the leases which he had obtained. According to the arrangement which was finally worked out, the Valley Oil Corporation and Mr. Pennington together own a one-fourth interest in the original Pennington leases, and the Humble Company owns the remaining three-fourths. Since that arrangement was worked out, the Humble has obtained leases on 23,000 acres additional, making a total of 45,000 acres which it controls entirely or jointly.

The discovery well of the field, the Walton 1 of the Humble Oil & Refining Company, Valley Oil Corporation and Harry Pennington, was completed as a 5,000,000-foot gasser at 1032 feet in February, 1927; and the first oil production was from the Thompson 2 of the same interests, completed at 1007 feet in the following April. Following completion of those wells, the Humble, which has done all the actual drilling in the field, kept several rigs running continuously, completing various tests as small oil or gas wells or as failures; and the first test for deeper pay, made through deepening of Gotosky 2, originally intended as another of the 1000-foot wells, resulted in the discovery in January, this year, of the 3300-foot sand which is furnishing the present production.

Rapid City, South Dakota.—Gas pipe line from Cabin Creek in southeastern Montana to Rapid City is practically completed and gas ready for distribution in a dozen municipalities in the Black Hills region including Rapid City. Line is 185 miles long. It was laid by the Hope Engineering & Supply Company of Mt. Vernon, Ohio, and cost approximately $12,000,000.

Three New Locations Made for Boggy Creek District

Houston.—The average daily production of the Boggy Creek field, Anderson-Cherokee Counties, East Texas, raised to a higher level through the completion of two Humble Oil & Refining Company wells, amounted to about 4100 barrels for the week ending September 8. The two new wells referred to came in at the beginning of that week.

During the past week Humble Oil & Refining Company, sole operator in the area, made three new locations, and has already started drilling on one of them. These locations are the Weinberg Brothers 2, the Lizzie Smith 2 and the Roberts 1. The latter is drilling below 100 feet. Weinberg Brothers 1 was abandoned during the week at 3174 feet. Humble's Mandelstam 3, another recently started test in the field, was drilling early this week at 1964 feet in shale and lime; its Hall 1 at the same time was down to 3071 feet in hard shale; and the T. H. Jones, Jr., No. 2 was rigging up to deepen.

The Humble Company's Lizzie Smith 1 and the Peter Holloway 1 are the two most recently completed wells. The Lizzie Smith 1, which is producing from 3766 feet after being deepened, is pinched in with a three-sixteenths-inch choke, through which it is flowing around 265 barrels a day. It registers 306 pounds pressure, and a temperature of 82 degrees.

The Holloway 1 on Saturday of last week was making 82 barrels an hour through a half-inch choke, and registered 675 pounds pressure; but early this week it was pinched in further, and was making around 55 barrels a day.

The T. H. Jones, Sr., No. 2, also a comparatively new well at Boggy Creek, was flowing around 1025 barrels daily through a three-eighths inch choke, according to a late report. Its pressure was 1100 pounds and the temperature 83 degrees.

The Mandelstam 2, one of the older wells of the field, is making around 165 barrels net oil a day. It is, however, making considerable water and basic sediment along with the oil, the oil constituting only about 20 per cent of the total fluid. This well has about 500 pounds pressure.

The Humble Oil & Refining Company has two 55,000-barrel steel tanks in the field, and one of them is about full. Movement of the field's production as yet is entirely by tank car.

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Two Tests Get Salt At Kelso Bayou

Houston.—The Yount-Lee Oil Company, which has repeatedly obtained production in the tests that it has drilled on its lease of the bayou in the Kelso Bayou field, Cameron Parish, Louisiana, drilled into salt during the past week in two tests on that lease. Its State Land 16, most westerly of its tests in the stream, hit the salt at 3880 feet and was abandoned in the salt at 3910 feet. Its State Land 14, most easterly of its tests there, went into salt at 3730 feet. Following its abandonment, an offset to it, the Watkins 11, of the Calcasieu Oil Company, Magnolia Petroleum Company and the Union Sulphur Company was abandoned at 3660 feet.

The Yount-Lee Company now has two new locations; for its State Land 17 and State Land 18, both of which are west of the No. 16, which was abandoned in salt. The No. 18 is farther west than the No. 17.

The Calcasieu Oil Company henceforth will operate only two rigs in the field. It has derricks up on two new locations, Doiron 4 and Valery 3. Its Doiron 3 is preparing to pump, and its Watkins 9, an old well, is drilling deeper at 3938 feet.

The average daily production of the Kelso Bayou field is now around 3200 barrels, including around 1300 barrels of the Yount-Lee Oil Company, and the rest, 1900 barrels, of the Calcasieu Oil Company and its associates in the field, Magnolia Petroleum Company and the Union Sulphur Company.

Grayburg Buys Howard County Acreage

Big Springs, Texas—The most recent Texas oil company to become interested in the Howard County field is the Grayburg, located in San Antonio.

It is reported that Grayburg paid $500 an acre with one-sixteenth over-riding royalty on the northwest 40 acres of the southwest 40 of the southwest quarter of Section 3, Block 32, Township 2 south, Howard County. The purchase was made from B. Reagan and Fox Stripling, Big Springs citizens. The contract calls for a test to be started within 15 days.

The acreage offsets the Taylor-Link 80-acre lease to the northwest.

Boling Production is Extended One Mile

Houston.—Gulf Production Company's E. C. Farmer 1 last week extended the producing area at Boling about one mile eastward, coming in for 1000 barrels of pipe line oil, 32.1 gravity, at 3445 feet.

Shortly after completion of the E. C. Farmer 1, the Gulf Production Company obtained production in another test at Boling, its Bay 4, located in the northeast extension of the field which was recently opened for production by Hyde Production Company's Fojke 1. The Bay 4 came in making considerable gas and around 50 barrels of oil from 3808 feet. It offsets the Hyde Production Company's extension well, which was completed at 3790 feet, making a large amount of gas and some oil.

The Texas Company's Bushnell 1, also in the northeast part of the field, but farther north than the Hyde and Gulf wells, is now drilling shale at 3178 feet.

In the vicinity of Gulf's new well on the E. C. Farmer land, but south of it, the Sun Oil Company and The Texas Company each failed to find production in tests which were abandoned during the past week. Sun's E. C. Farmer 1, located about 500 feet south of Gulf's well, was abandoned at 3825 feet; and The Texas Company's E. C. Farmer 1, south and west of the new Gulf well, was abandoned at 4881 feet.

Small Well Completed Near Dewalt

Houston.—Humble Oil & Refining Company's Sugarland Industries 2 at Sugarland, Fort Bend County, has been completed at 3592 feet, and is flowing around 50 barrels of pipe line oil a day.

This well was completed originally about July 15 for 81 barrels initial production at 3341 feet, but was subsequently drilled deeper.

Its location is 900 feet northeast of the Sugarland Industries 1, discovery well of the field.

Humble Oil & Refining Company controls practically all acreage in this field, which was opened for production this year; and has completed several oil and gas wells there. The company is now drilling three tests. Its Camp 1 is drilling shale at 3140 feet; the Sugarland Industries 3 is fishing at 3576 feet; Deathridge 1 is drilling hard sand at 4040 feet; and the Dew Brothers 1 is a derrick.

Church and Fields to Get Gasoline Plant

Odessa, Texas—Plans of the Phillips Petroleum Company for erecting its big gasoline plant near the Church and Fields pool, Crane and Upton Counties, are getting well under way and actual construction work will begin soon. A. W. Riney, general construction superintendent, who is stationed here for the time being, stated that work on the field camp will begin this week.

General West Texas headquarters for the gasoline department will be located at the plant after it gets in operation. There will be an office building provided and about 50 homes for plant employes.

Much of the heavy machinery going into the plant will be shipped by way of Odessa and hauled from here to the plant site by trucks and teams. Equipment is to include twelve 400-horsepower engines, two compressors and a number of generators.

Capacity of the plant as now planned will be between 50,000,000 and 75,000,000 feet of gas daily. The output of gasoline will depend on the gasoline content of the gas, but it is believed that the plant will yield between 30,000 and 50,000 gallons.

The plant will include treating apparatus to purify the sulphur contaminated gas before it goes into the compressors.

Location of the plant is to be about a quarter of a mile southwest of The Texas Company's Landreth Strip lease, Crane County.

Casing Set on North Casper Creek Well

Casper, Wyoming.—Minneapolis interests, headed by Michael C. Wiseman, have set casing at 947 feet in their test on the North Casper Creek structure, northwest quarter section 1-56n-82w, about 25 miles northwest of Casper and should have the Sundance sand within the next few days. Midwest drilled a test on structure several years ago and had 10,000,000 cubic feet of gas in the Sundance. If a sufficient quantity of gas is found it will be utilized in the manufacture of natural gas. An effort will also be made later to test the lower sands on the structure for oil.

Two Offsets for South Texas Wildcat

Laredo, Texas.—O. W. Killam has started two offsets to his Cuellar 1, in the north corner of the Cerrito Blanco Grant of Zapata County in the Cuellar ranch. The Cuellar 1 came in last week flowing around 250 barrels of oil daily from a depth of 1465 feet, with casing set at 1460 feet. It is now flowing hourly by heads.

The well was a wildcat. The field which it has opened up is west of the Henne, Winch and Farris pool, south of the Mirando Valley field, and east of the old Jennings gas field, being about seven miles from each of those fields.

The two new tests of O. W. Killam in the area will be the Cuellar 2 and the Cuellar 3. Cuellar 2 is to be 145 feet west and south of the discovery well and the No. 3 Cuellar will be 145 feet west and 300 feet north of it.

Casper, Wyoming.—Another new oil field looms in Wyoming at Muskrat Structure, Section 34-34n-92w, about 100 miles west of Casper where the Producers & Refiners Corporation has 8,000,000 cubic feet of wet gas in the top of the First Wall Creek sand at 4340 feet. Nothing definite will be known as to the value of the discovery until the company succeeds in fishing out three strings of tools. Well had a good showing of oil around 3800 feet.

A. H. Richards, formerly of Ponca City, Oklahoma, is now a resident of San Angelo, having moved there to take the place of C. D. Vertrees with the Marland Production Company. He is in charge of sub-surface work for Marland in the West Texas district. Mr. Vertrees has been changed to other work for Marland.

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The Big Rotary Rig of Today

A mechanical study of what has taken place in this line equipment during the past few years

In Three Parts—Part Two

By HARRY PENNINGTON
Mechanical Engineer

THE larger steam piping and the higher steam pressure of the big rig requires a better method than the use of all screw fittings for holding pressure against leaks. Also, when dismantling for moving, and setting up, screw fittings always cause a loss.

Flanged fittings afford better service than screwed fittings, particularly when the pipe is welded into the flanges, or securely peened. While the cost of flanged fittings and valve is somewhat higher, the loss in a few moves of fittings that must be unscrewed and then screwed together, is more than offset with flanged valves and fittings.

Flanged pipe cannot, of course, be cut to length, but expansion joints permit taking up inequalities caused in each set up of boilers.

Forged steel flanges, made on a production basis, are fairly low in cost today, and are preferable to cast iron.

Dismantling steam piping with flanged valves and fittings is a matter of removing bolts, and placing them back in one flange to prevent their loss —done by one man—while unscrewing requires several men. Erection of flanged valves and fittings is also a matter of handling bolts, done by one man.

Copper-asbestos gaskets may be obtained today in any inside and outside diameter for flanged fitting work; they are low in cost, may be used several times, are used without cutting and without waste, and are effective in high pressure work, as well as comparing favorably in cost with other styles of gaskets.

Steam valves in main steam lines of the big rig are rather large to use globe valves. Gate valves are preferable for they furnish a full diameter steam passage without turns.

The fundamental difference in gate valves is in the stem, there being the non-rising stem valve, and the rising stem valve with an outside screw and yoke. The latter valve is the better valve, for in addition to having a better stuffing box, the position of the valve, whether open or closed, may be seen from the outside by the position of the stem, while the non-rising stem valve does not show whether it is open or shut.

Commercially dry steam may contain as much as two per cent of moisture—entrained water coming out of the boiler with steam. Drilling rig boilers, though, with limited liberating surface, cannot deliver as dry steam as water tube boilers of the stationary type because the latter have greater proportionate liberating surface within the boiler, and steam frees from water more readily without entraining water.

High water level in boilers, infrequent washing, salt water, and overloads also add moisture to steam, and bare steam lines cause condensation on the way to the rig.

When separators are used, however, moisture in steam may be reduced to less than one per cent—lower than commercially dry steam—with a net gain in steam economy ranging in some cases up to 10 per cent.

Additionally, wet steam passing through valves, washes lubricant through, making lubrication a difficult matter. While mineral steam cylinder lubricants are compounded with animal oil, up to as high as five per cent of the latter, which makes the oil adhere more closely to valve and cylinder surfaces than plain oil, not compounded, wet steam still washes the lubricant away, and into the exhaust. But dry steam does not, hence, when separators are used, lubriction may be done perfectly.

Friction in poorly lubricated cylinders may add as much as 25 per cent to the load, while scoring and other troubles result from imperfect lubrication.

Steam separators operate on two general principles; one is that of changing direction, which projects the water out of the steam stream, on to a surface where it may drain down and be trapped out. Another principle is that of whirling the steam passing through the separator, to throw water out of the stream of steam, on to a surface whence it may drain down and into a trap. The surfaces, in both types, may be corrugated for exposing greater surface area.

As water accumulates, a trap is necessary to remove it automatically. For drilling pumps especially, a combined lubricator, separator and trap might be designed compactly, for field use with material benefit. This may add a hundred pounds or so of weight, but by conserving steam, the effective boiler capacity is increased, and the work of making wells correspondingly made easier.

Steam separation is good mechanical engineering anyway, and the big rig power plant is as susceptible to improvement as the largest central station power plant.

Rotary

Before the big draw works came out, the rotary had been increased in size to pass a 26-inch bit through the barrel, and for that size hole, the largest rotary is used. But, for average well work, the largest rotary is not required, even in the deeper holes of the Mid-Continent and Gulf Coast, but, in California, starting with 20-inch casing, the largest rotary must be used.

The 20-inch rotary has ample capacity in the gear teeth of table and pinion for drilling with eight-inch pipe, and since the hole diameter, is a gauge of the size rotary required, we find 20-inch rotaries for the greater part being used in the field.

Make-and-break of various kinds has been incorporated in nearly all designs, although the field has not yet accepted fully, the make-and-break operation for making up drill pipe, because of minor troubles—not with the mechanism of the rotary, but in burnt tool joint threads, which occurs unless some care is taken to relieve the pipe of tension, or compression—load on the joint—when making it up.

The Draw Works

The enormous torque set up by twin engines with higher steam pressure, twisted six-inch and seven-inch drum shafts, with the great line pulls created. In twisting, and bending, the brake drums fractured, and as a result, the big rig has eight-inch and nine-inch diameter drum shafts.

Since drum shaft diameter is the beginning point in the design of regulation jack post type draw works, all

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parts are made correspondingly larger and heavier.

There has been but little change in the sprocket ratios, compared with smaller rigs, but the higher speed, higher power twin engine enables greater hoisting speeds and loads, setting up greater stresses in chains, sprockets, clutches, shafts, bearings, keys, which have been made larger.

An improvement as to shafts is in the use of heat treated alloy steel. A further improvement in shaft torsional capacity, as well as reliability, may be secured by using hollow shafts—bored hollow to allow heat treatment to penetrate through and through the steel. Heat treatment of large diameter solid shafts penetrates only a short distance below the outer surface, leaving the interior much as it was before treatment, but by hollow boring, or piercing, the interior surface may also be cooled rapidly enough to refine the grain of steel outward from the inner bore, while the penetration of heat treatment effect inward from the outer surface is also secured.

It is only by hollow boring and heat treating that the difficulties of large shafts as to fracture, and as to strength have been overcome. In many applications of shaft design above six inches in diameter, hollow boring is used to material advantage, as in steam ship practice, for, in addition to the advantages of thorough heat treatment, the bore may be inspected for interior defects such as fracture set up in forging, or pipes left in the ingot.

Ratios, Loads and Speeds

An average of big rigs is given below:

	Teeth	RPM
Driver	16	250
Driven Line shaft sprocket	24	166

	Low	Inter.	High
Driver Line shaft sprocket teeth	16	20	24
Driven Drum shaft sprocket teeth	34	26	20
Drum speed RPM	78	129	199
Single line speed	409	677	1045
Single line hoisting capacity	7.5	4.5	tons 3
Single line hoisting capacity	45	28	17
Ten line hoisting capacity	72	41	27

Thus, 4000 feet of 32-pound six-inch pipe, with tool joints, weighing 136,000 pounds, lessened by one-seventh for submergence, leaves a load of 115,000 pounds requiring eight lines in low gear.

The steam engine, however, with its torque increased at lower speed, together with lessened power requirement, hoisting at lower speed, can, in the 12x12-inch twin type, hoist a greater load than the foregoing, but to maintain full hoisting speeds as set out above, the capacities are not far from correct as obtained in the field from wells being drilled.

It must be remembered that the capacity of a rig, however, is not the length string of drill pipe it will handle and make hole with, but is rather the length of casing string it will set *and pull*. For instance, if 4000 feet of eight-inch 43-pound pipe is to be set in a hole drilled with 4000 feet of six-inch drill pipe, weight of casing is 172,000 pounds, less the usual one-seventh for submergence, or a net load of 148,000 pounds, to set which 10 or 11 lines must be used to limit the line pull to that of line capacity as well as engine capacity. Floating casing in the hole permits using fewer lines. The work of setting casing, however, performed at far lesser intervals than running drill pipe into the hole, requires only a short lift of casing, without the sustained lifting needed for drill pipe, unless the casing is to be pulled, which is quite a different matter.

With greater loads than set out in the table, engine speed lowering and load speed lowering, while engine torque increases, loads in excess of 125 tons may be handled with the big rig on account of flexibility of the twin engine.

When steam pressure is further raised, the engine will develop further power. In practically all steam engineering, pressures have been materially raised during the past few years—marine work to 400 pounds—for economy in steam consumption; on the drilling rig, greater power of the engine, as well as economy is sought in elevated pressures, and 250 pounds boiler pressure evidently will soon be reached.

While maximum duty has been used for illustration, pipe handling throughout the well is speeded by greater engine power, for when weight of pipe is less, its hoisting speed is greater. Two thousand feet of drill pipe may be hoisted at twice the speed of 4000 feet, and all the speed obtainable is used, particularly in rigs operated on a contract basis. Steam engine flexibility permits this, and any other type of prime mover, whether internal combustion engine, or whether electric power is used, must possess the same flexibility as between engine and load to secure the same facility in making wells.

For considering the necessary diameter of shafts, let us first consider torsion, because the shaft of the regulation jack post rig transmits power in torsion, from clutch to drum.

Torque may be expressed in pound-inches, which is the effort of one pound at one inch distance from the shaft center, in turning the shaft. Pound-feet may also be used.

The following rational formula, from Low and Bevis applies:

P equals force in pounds on a lever arm at a distance **A** from shaft center; **S** equals shearing resistance at the outer fibre of the steel in the shaft, in pounds per square inch. Then:

$Pa = pi\ d^3S$ into 16, which equals $0.1963d^3S$

The shearing resistance is a matter of the quality of steel, ranging from 7000 pounds in mild steel, up to 20,000 pounds in an alloy steel, depending upon the diameter of the shaft, also. A mild steel shaft, then has the following torsional strength, taking the shear at 8500 pounds:

0.1963 x 8^3 x 8500 equals 850,000 pound-inches.

An alloy steel shaft, heat treated, without interior defects, has the following strength; taking the shear value at 17,000:

0.1963 x 8^3 x 17,000 equals 1,700,000 pound-inches.

Starting a load upward with a single line pull of 30,000 pounds at a distance from center of shaft of 10 inches, sets up a torque of 30,000 x 10, or 300,000 pound-inches.

The drum shaft also has the bending stress due to line pull, tending to bend the shaft, which forms a reduction in shaft carrying capacity.

In pulling stuck pipe, taking the pulling out strength of six inches at 400,000 pounds, however, using six lines, the single line pull is 66,000 pounds, which, at the perihery of drum, 10-in. center, sets up a torsional load on the shaft of 660,000 pounds, which is not far from the permissible load on an eight-inch mild steel shaft.

Matters of design, however, such as shaft diameters, bearing lengths, pin dimensions, are not properly the subject of a paper of this nature; it is rather concerned with types, than details of design.

But, the design of any given type of equipment is a matter of concern, because a design of any machine can make it valuable, or valueless. Not only must the machine be designed with a proportion of parts for the load, but the parts must be no larger than necessary for the service, for rotary equipment must be as light as possible on account of being moved from location to location.

The matter of facility, is equally as important as the design details; operated by men, these men must have machinery easily understood, easily operated and easily maintained, and on account of increasing depths, with additional problems, drilling machinery must be continually improved, and made stronger.

The fact that America is the home of rotary equipment, and that in spite of greater manufacturing costs here than in some countries abroad, great quantities of this equipment are shipped abroad, points to the facility and convenience of operating American rotary equipment, together with safety and speed.

Brakes

Brake drums have been widened and made considerably larger in diameter, to correspond to the remainder of the big rig. The average width is 12 inches, and the diameter ranges from 54 to 60 inches. Brake wrap averages 270 degrees, making three-fourths of the brake drum effective. The 60-inch diameter brake drum 12 inches wide, furnishes 1692 square inches of braking surface per drum, or a total of 3384

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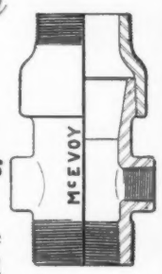
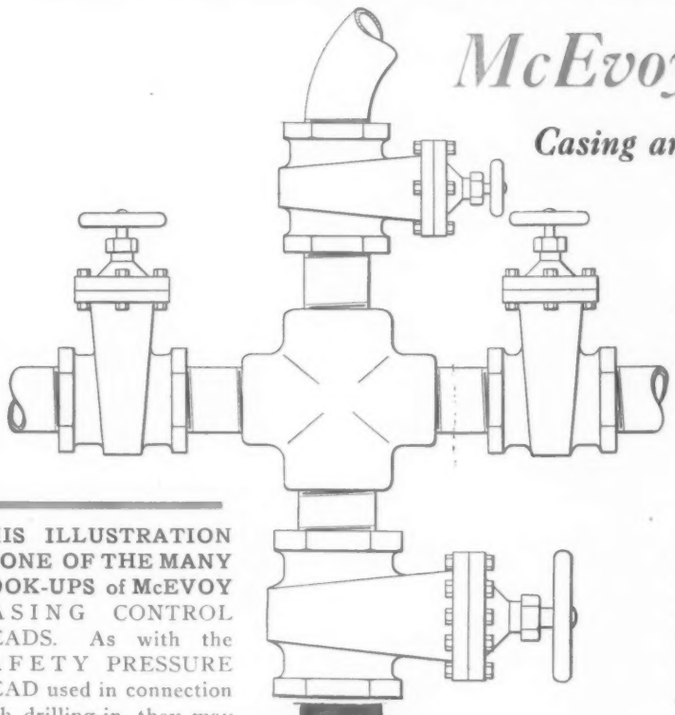


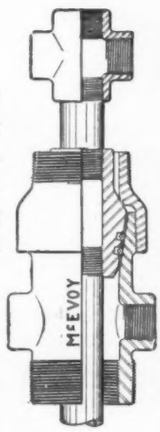
—are designed to meet the needs of the top of the well from drilling-in with safety pressure head to pumping.



THIS ILLUSTRATION IS ONE OF THE MANY HOOK-UPS of McEVOY CASING CONTROL HEADS. As with the SAFETY PRESSURE HEAD used in connection with drilling-in, they may be connected to handle every phase of a well's production.

Style "A"

Style "A" Heads are equipped with slips to handle the tubing in and out of well, and to suspend the tubing in the Head. A tubing stuffing box with packing is provided for in the main body cap.



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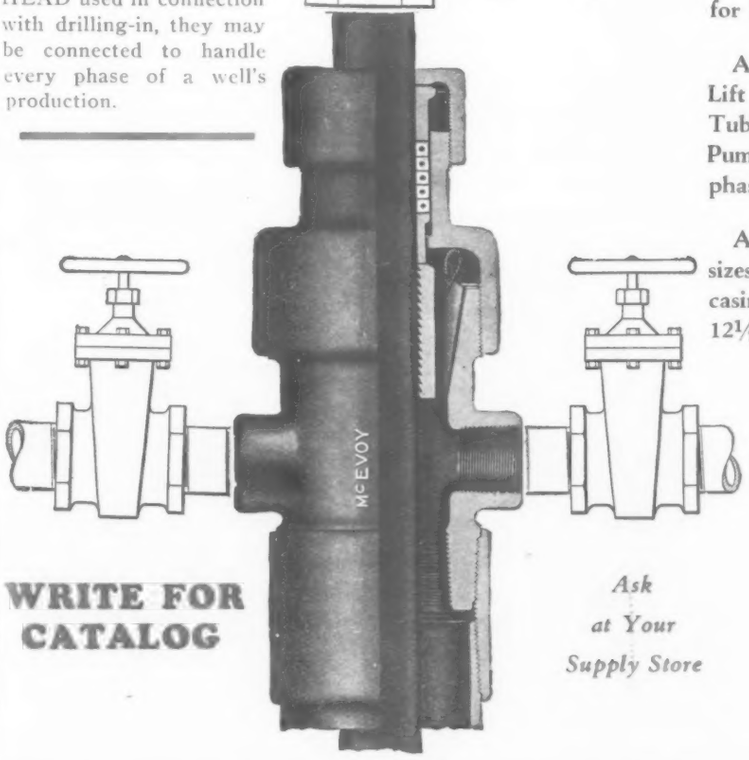
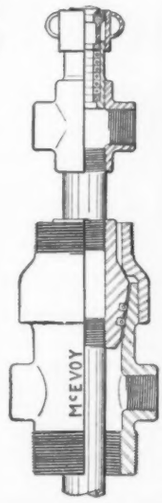


All heads are made in 4 sizes taking care of pipe and casing between 4½" and 12½".

Style "B"

Style "B" Heads are equipped with a Tubing Hanger Head, to hang tubing from the spider of the main body and have a swage reducer to hold down the Tubing Hanger Head, so it cannot be raised by any pressure, as well as to prevent lifting of tubing when pumping.

All heads are made in 4 sizes taking pipe and casing between 4½" and 12½".



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square inches for the two brake drums.

Brake leverage has been increased, over the smaller rigs, naturally for the weight of the driller on the brake is the same, while brake pressure total has been increased.

Equalization of brakes is a decided improvement because it has never been possible to adjust both brakes equally. The tight brake runs hotter than the loose brake, and expanding, further gets them out of adjustment, but the automatic adjustment, secured by an equalizing brake beam, distributes load between brakes evenly, with superior braking effect.

Further, should one brake fail, in the older type, we still had another brake; the same applies to the equalized brake when furnished with a stop at both ends of beam, arranged so that should one brake fail, pressing the brake lever down further applied the other brake without dropping the load.

The larger braking surface furnishes additional heat radiation surface; some designs have especially designed brake drums for fanning air through for cooling, when the drum is turning—the brake drum being divided for that purpose, while another design is water cooled, passing water through the drum shaft and out to the brake drums.

Fortunately, draw works brakes are not used continuously, but are applied to stop pipe when going in the hole, and to stop the blocks when coming out. When lowering a stand of pipe into the hole, it is practically dropped until within 10 feet of its stopping point, when the brakes are applied to stop it in the remaining 10 feet. With six lines strung up, 60 feet of line is reeled out while stopping, and the drilling drum turns almost 12 times, while the brake is being applied.

In dropping 95 feet down, with six lines, 570 feet of line is reeled out, making 122 turns of the drum. If dropped in eight seconds, the drum speed is 912 revolutions per minute. With eight lines, dropping in 10 seconds, the drum speed is the same.

These high speeds, together with the high brake pressure needed, and the heat generated, makes a brake drum somewhat of a matter for consideration, for rim speed is about 14,000 feet per minute, and unless carefully designed and made of the proper material, the brake drum will blow up at this speed, with considerable danger to the crew and to property, especially when heat sets up unequal expansion, without provision for expansion in the design of drum.

Since the braking surface heats more than the flange and ribs, provision must be made for the drum expanding more than the flange, which is done by making them in two pieces, and bolting, or riveting the drum to the flange, so that the drum may expand without pulling the flange apart.

Cast iron brake drum surfaces, while relatively soft, resist wear admirably and do not peel, but the low strength of cast iron in tension sets up liability to explosion of the drum; many have occurred.

A rolled or forged soft steel drum has greater strength than cast iron, both in tension and under shock, but soft steel peels off under high brake pressure, and when rivets of the brake lining rub the steel, it is scored.

It is possible to use a harder steel casting for the brake drum, with sufficient unit strength for the work—considerably greater than cast iron—which prevents wear as well and affords long service periods. The writer has such drums that have been in service for five years without scoring, even though the drums are relatively small.

Drilling Pump

Along with the remainder of the rig, the drilling pump for the big rig has been made larger all over, although the ratio of steam cylinder to water cylinder diameter has not been increased, except by the use of smaller liners than standard. Consequently, for the same goiler pressure, the water pressure has not been increased. But, since steam pressure has been elevated, the pump delivery pressure is greater than before.

In drilling a well, volume controls pressure needed to circulate. Beginning with say 200 pounds pump delivery pressure, that pressure is absorbed by fluid friction going down the hole and back, and when the fluid arrives at the surface, all the pressure is gone, and the energy of pumping has therefore been entirely absorbed, except a very small quantity of velocity head in the issuing slush stream.

Friction of water increases as the square of the velocity, hence, to circulate greater quantities of flush, greater pressure is needed, which is furnished by the additional steam pressure.

Considering the pump shown in Figure 6. The Gumbo Buster, made by American Well & Prospecting Co.

The size of this pump is 14½x7¼x18 inches. The ratio between steam and water end piston areas is four to one, which permits shut-off pressure four times greater than steam pressure. With 175 pounds steam pressure, the shut-off pressure—the pressure with the discharge valve closed and the steam valve wide open—is 700 pounds; with 200 pounds steam pressure, the shut-off pressure is 800 pounds.

But, while operating, delivering slush, friction of pistons, rods and valve gear, and wire drawing of steam passing into the cylinders through the valves, sets up losses which reduce the operating pressure considerably, and if there is slippage of water past the rubber packing, there is a further reduction in operating pressure.

As pumps increase in size, and as pressure of the same pump increases, the mechanical efficiency increases, for friction, in this type of pump, is practically constant at constant speed, and with varying load, the mechanical efficiency varies. At load and at speed, an allowance of 25 per cent in the 18-inch stroke for mechanical losses is approximate, which permits an operating pressure of 600 pounds maximum, with full steam pressure in the cylinders. But wire drawing which further reduces the steam effort on the steam piston by an amount equal to the pressure reduction, which further reduces the maximum working pressure, so that 450 to 500 pounds is that obtained in practice, maximum.

For a well to offer a friction loss of 450 to 500 pounds, it must be small and deep, and the drill pipe must be small, in which large amounts of circulation set up greater friction than in larger holes with larger drill pipe.

For these varying conditions, the present pump offers a wide range of operation to suit conditions. If the hole is started with large diameter, where higher velocity is needed to flush cuttings out, the pump may be

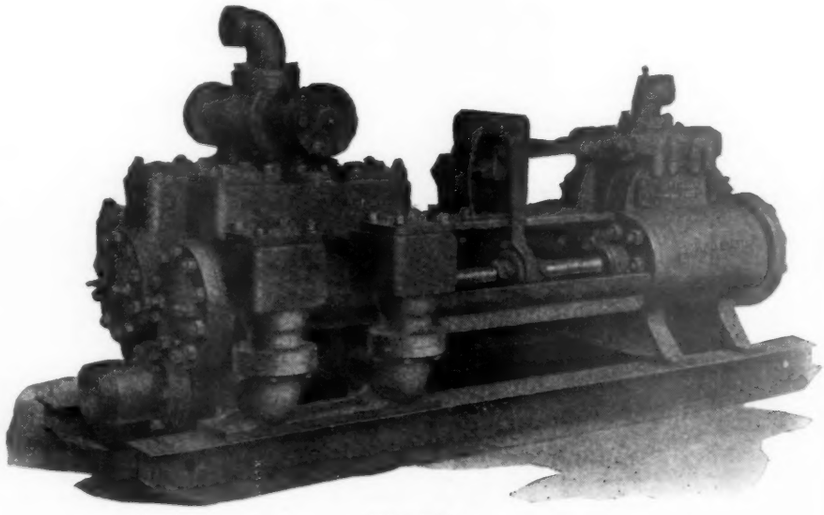
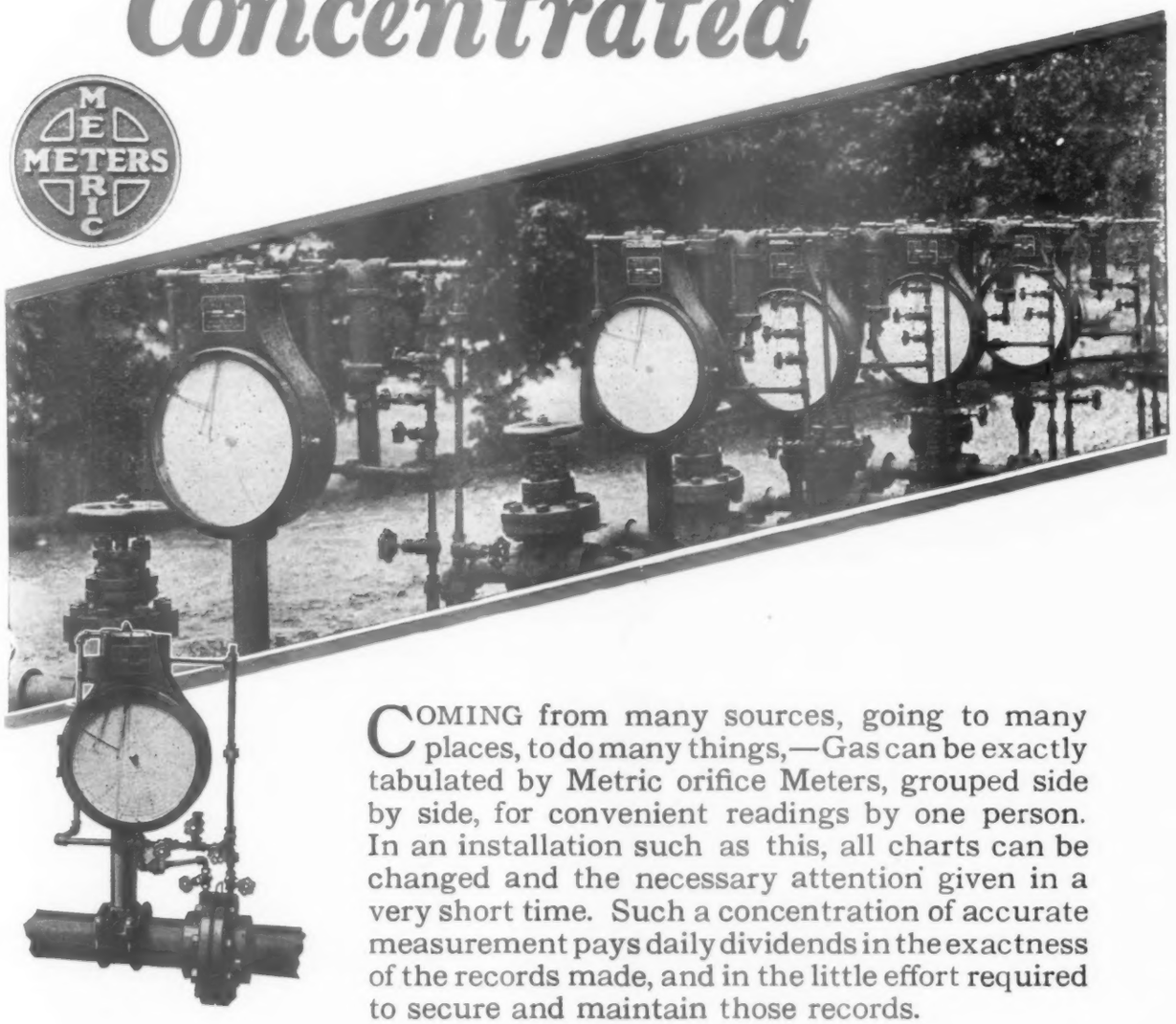


FIGURE 6

Gumbo Buster Drilling Pump. 14½ x 7¼ x 18

Accuracy— *Concentrated*



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speeded, to clear the bit and hole; velocity being low, the lower pressure prevailing in the capacity of the pump at higher speed, the pump responds to this duty. As the hole is smaller, upon being drilled deeper and casing set, to maintain the same velocity of slush, the pump must operate at lower speed, but the required pressure rises. The pump, delivering greater pressure at lower speed and volume, responds to this requirement.

Drilling gumbo, in which the pressure rises, the pump volume, considerably greater than in older designs, assists materially in making hole. In spudding, if the pipe is not lifted quickly, pump pressure may rise to the shut off pressure and the pump simply stops until the bit is raised and the water courses cleared, when the pump resumes its former stroke without attention.

Thus, steam driven pumps furnish the flexibility as between volume and pressure necessary for drilling. For successful operation, a power driven pump, using internal combustion engines, must have the same flexibility, else the engines stall when pressure rises, particularly when the bit is plunged into gumbo in spudding.

Power driven pumps offer much toward economy, cost, and weight for portability, but, unless furnished the same flexibility, this type is not successful.

Of all prime movers, the direct acting pump uses more steam per horsepower of work done in pumping water. Taking steam full stroke, there is no work done by expansion. Only by using a shorter cut-off can expansion be secured, which means the use of crank and flywheel, which is too cumbersome for field transport in conventional designs.

An average low mean of steam consumption in a direct acting pump of this size is 100 pounds per indicated horsepower. The mechanical efficiency ranges around 75 per cent. and the steam per water horsepower is therefore 133 pounds.

We then have the following table:

DISCHARGE PRESSURE.

RPM	GPM	100 lbs.		200 lbs.		300 lbs.		400 lbs.		500 lbs.		600 lbs.	
		WHP	BHP	WHP	BHP	WHP	BHP	WHP	BHP	WHP	BHP	WHP	BHP
30	375	21	93	42	186	63	279	84	437	105	465	126	558
40	500	29	128	58	256	87	384	116	512	145	640	174	768
50	625	36	166	72	332	108	498	144	664	180	830	216	996
60	750	43	190	86	380	129	570	172	760	215	950	258	1140

RPM—Revolutions per minute (4 strokes per rev.)
GPM—Gallons per minute.
WHP—Water horsepower developed in fluid end.
BHP—Boiler horsepower required at the rate of 133 pounds steam per horsepower developed by pump.

Thus, although the actual horsepower involved is comparatively small, the boiler horsepower is great, being 4.43 times the water horsepower. Since the capacity of the locomotive type oil country boilers is about 250 per cent. of normal rating, three 85 horsepower boilers develop actually about 650 boiler horsepower, hence, the figures below and to the right of the shaded line above, may not be reached with this boiler capacity. Deducting 150 boiler horsepower for engine operation, capacity of this pump is anything to the left and above the dotted line, the foregoing being based upon average operating conditions.

Then, where the pressure and volume requirement is greater than boiler capacity, with an allowance for engine steam, the limit of boiler capacity is reached. This is expressed at this time in the field in a demand for three 100 horsepower higher pressure boilers for the big rig.

The 100 horsepower oil country boiler is being built now, adding further to the cost, maintenance, operation and fuel for the big rig.

The use of self-tightening pump pistons, for preventing slippage, and for longer liner life, has become widespread. The results accomplished with self-tightening pump piston rubbers are:

Prevention of slippage insures full volume of slush for drilling, which sets up uniformity toward drilling methods and rates, by flushing out cuttings of larger average size;

Formations that may be drilled as fast as cuttings can be taken away are handled more quickly with an even, large flow of slush;

Slippage of slush past the rubber piston sets up a loss of power and steam, equal to the amount of slippage. Where the pistons do not tighten, but wear and allow slippage, slippage may run up to high figures, an average being 25 per cent. Self-tightening pistons reduce slippage to 4 or 5 per cent., where it should be.

However, a self-tightening piston, or a piston tightened by pump pressure, should not set up undue friction. If pressure greater than that necessary for slippage elimination is used for tightening the rubber against the liner, undue friction may set up as great a steam loss as that of the slippage previously existing and in addition, pressure contact against the liner wears the liner and rubber needlessly.

Full volume of pump displacement is a very necessary thing, however, in drilling, and although some additional frictional load, and steam to overcome the same is present, the value of full displacement is far greater than the losses in securing the same.

Where pump rubbers are solid, without the self-tightening feature, a little wear reduces slush volume by slippage, and the pump being of the piston type, slippage cannot be seen, and may be determined only by measuring the volume being delivered by the pump. Measurement of volume is cumbersome; an ordinary water weir cannot be used, because slush changes its viscosity with its mud content, and unless viscosity is determined, weirs based upon clear water, with a viscosity of one, do not apply.

Hence, to know positively that a pump is delivering constantly a volume equal to its approximate displacement assists materially in solving and bettering conditions of drilling in so far as weight of slush is concerned.

In wells with soft walls, or with walls that are composed of shale, which erodes easily, velocity may be maintained up to a point definitely below that at which erosion of well wall is set up. With definite weight of colloidal mud, these velocities are known, and may be maintained, but if slippage is present, in an indeterminable amount, the value of correct velocities of slush up the hole cannot be secured.

The only advantage of larger drilling pumps is in delivering the necessary quantity of slush to maintain a definite velocity for carrying out maximum sized cuttings, and heavy sand; if drilling is carried on at such rate, with full pump delivery, that cuttings are carried out as fast as accumulated, and pump delivery reduces, these cuttings may fill the bottom of hole, particularly if heavy sand is a part of cuttings. A shut-down of a few minutes will allow the cuttings to settle and stick the drill pipe. Constant, full pump delivery sets up a gauge of slush carrying capacity that can be adhered to, but varying slush delivery destroys the value of gauging the same.

Self-tightening pistons permit generation of maximum pump pressures for drilling gumbo and for spudding. Using a short fish tail, which places the bit water courses closer to bottom, where the courses are buried each time the bit is spudded, projects the water jets into slush and mixes gumbo with more facility. But high pressure is required, and a failure to obtain the necessary pressure slows up gumbo drilling.

High pressure is also needed at times for loosening cuttings that have settled down around drill pipe and stuck the pipe by freezing. If circulation is reestablished by pressure, the pipe may be loosened. The maximum pump pressure obtainable cannot be secured with pistons that allow slippage, hence self-tightening pistons are of material assistance in this particular operation. Where two pumps are used with the water ends connected tandem—the delivery of one pump being connected to the suction of the other—double the pressure of one pump may be obtained, which additional pressure may be used for loosening frozen drill pipe. But, where pressure is lost by slippage, the value of high pressure is lost.

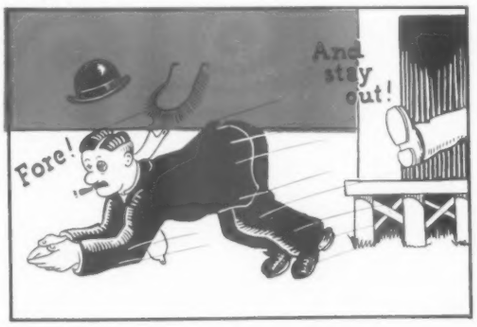
Additionally, slippage, to secure a certain delivery, requires a faster pump speed than where there is no slippage. Then without appreciable slippage, wear on the pump—the piston rods, cross-heads, valves and valve gear—is reduced.

The direct acting drilling pump cannot be cross-compounded successfully, due to receiver pressure changing with each change of load, setting up uneven piston effort of the two pistons, hence for compounding, the cylinders must be placed tandem, which introduces two additional

Report *of Special Investigator Sidney J. Gumshoe*

"SIDNEY," we said to the famous sleuth (we know him that well), "Sidney, we want you to go out in the oil fields and investigate for us." "Well," replied Mr. Gumshoe humorously, as he dodged a well-aimed ink bottle. The results of Mr. G's investigation, told in his own inimitable way, are set down here for all to study.

"I proceeded per yer instructions," he started off, "to investigate the oil fields. Case No. 1 was a feller name o' Zilch. Had a oil well he was mighty proud of. Smart feller, Zilch. He went around to another feller with a producin' well 'bout half a mile away and he gets the dope. This other feller had a good producin' sand at 6400 feet, with nothin' much between it an' the top. So Zilch goes back and



"He requested me to leave"

drills his well to 6400 without stoppin'. He finds nothin'. He goes on, and when I left he'd reached 7843 feet and no sign o' that oil sand. Cost him a lot o' dough. When I asked him how he missed it he said something about cores and requested me to leave.

"Case No. 2, Dr. Bockle, had a well two hundred yards away from Zilch's. I shadowed him for three days. He knew about the sand at 6400 feet in the other well, but he had a lot o' fellows there all named Elliott, and they were pullin' cores out o' his well all the time. I overheard Dr. Bockle sayin' to another feller 'There's the evidence' and when I looked in the window he was showin' him a piece o' core. So I went right in, flashed my badge and demanded the evidence. Doc and the other man laughed. Seems this other fella was one o' the Elliotts.

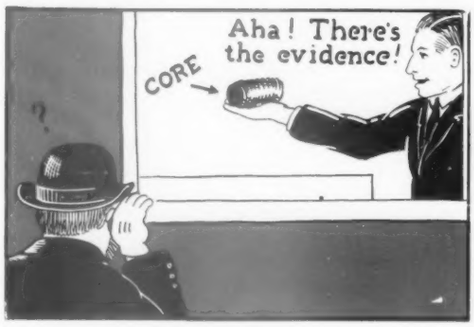
" 'Here it is,' says Doc. 'I found that oil sand at 3108 feet in my well, and I bet I'd a' gone right on past it if it hadn't been for these boys corin'

Mr. Gumshoe (you wouldn't recognize him — he's disguised).

the hole all the way down. Zilch is still looking for it,' he laughs, 'and o' course he passed it up. He's lost his well, all because he didn't want to core till he caught up with the other fellow. Now all the coring he can do won't find him that oil sand!'

"So I come back," ended our investigator. "I deduce that everybody ought to get Elliott dope and get the real low down on coring their wells. Lots of 'em would save money. And that Elliott man I talked to sure knows his stuff."

We agree with Mr. Gumshoe's deductions. It costs you nothing to get the benefit of Elliott's recommendations. And those recommendations are based upon literally thousands of feet of hole successfully cored. Put your coring problems up to Elliott!



Mr. G. finds the evidence

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Dia. Hole inches	Dia. Drill Pipe inches	Revolutions Per Minute of Drilling Pump 14x7¼x18												
		5	10	15	20	25	30	35	40	45	50	55	60	65
		Velocity in feet per second up the hole												
6	3	.83	1.66	2.49	2.52	.415	4.98	5.81	3.04	7.47	8.35	9.13	9.96	10.79
7⅞	3	.42	.84	1.26	1.68	2.10	2.52	2 94	3.36	3.78	4.23	4.62	5.04	5.46
7⅞	4	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50
9	4	.34	.68	1.02	1.36	1.70	2.04	2.82	2.72	3.06	3.40	3.74	4.08	4.42
9⅞	4	.27	.81	0.81	1.08	1.35	1.62	1.89	2.16	2.46	2.70	2.97	3.24	3.51
11	4	.21	.42	0.63	.84	1.05	1.26	1.47	1.68	1.89	2.10	2.31	2.52	2.73
9	5	.41	.82	1.23	1.64	2.10	2.46	2.87	3.28	3.69	4.10	4.51	4.95	5.37
9⅞	5	.31	.62	0.93	1.24	1.55	1.86	2.17	2 48	2.79	3.10	3.41	3.76	4.07
11	5	.22	.44	0.66	.88	1.10	1.36	1.54	1.76	1.98	2.20	2.42	2.72	2.94
12½	5	.17	.34	0.51	.68	.85	1.02	1.19	1.36	1.53	1.70	1.87	2.04	2.21
15	5	.11	.22	.33	.44	.55	66	.77	.88	.99	1.10	1.21	1.32	1.43
18	5	.07	.14	.21	.28	.35	.42	.49	.56	.63	.70	.77	.84	.91
9⅞	6	.395	.79	1.18	1.58	1.97	2.37	2.76	3.16	3.55	3.95	4.34	4.74	5.11
11	6	.326	.65	1.98	1.30	1.13	1.96	2 25	2.60	2.93	3.26	3.59	3.92	4.27
12½	6	.187	.37	1.56	.75	.93	1.12	1.27	1.50	1.78	1.87	2.06	2.24	2.42
15	6	.11	.22	.33	.44	.55	.66	.77	.88	.99	1.10	1.21	1.32	1.43
18	6	.075	.15	.22	.30	.37	.44	.52	.60	.67	.75	.82	.88	.96
20	6	.058	.11	.17	.23	.29	.34	.42	.46	.52	.58	.64	.68	.74
24	6	.0394	.08	.12	.16	.19	.23	.28	.32	.35	.39	.43	.46	.50
26	6	.0333	.06	.10	.13	.16	.19	.23	.26	.30	.33	.37	.38	.41
15	8	.139	.28	.42	.56	.69	.83	.97	1.12	1.25	1.39	1.53	1.66	1.80
18	8	.0917	.18	.27	.38	.46	.54	.64	.76	.82	.92	1.00	1.08	1.17
20	8	.0645	.13	.19	.25	.32	.38	.45	.50	.58	.64	.71	.76	.83
24	8	.0418	.09	.12	.16	.21	.24	.29	.32	.38	.42	.46	.48	.52
26	8	.0358	.07	.10	.14	.17	.14	.24	.28	.31	.35	.38	.28	.32

cylinders, and receivers, adding materially to weight and length of the pump.

But since the steam rate is lowered something like 35 per cent., the additional pump weight required may be offset by the lesser steam, and boiler requirement, so that when steam is needed in deeper well work, the compound pump may eliminate the necessity for the fourth boiler, with a net reduction in total rig weight.

Slush Velocities

Displacement per stroke of a 7¼x 18-inch water cylinder is 3.217 gallons; at a volumetric efficiency of 80 per cent. the delivery becomes 2.574 gallons per stroke, or 10.296 gallons per revolution of four strokes.

From this, velocities are computed in the table above, for convenience.

Geologists Will Meet at Fort Worth

Fort Worth, Texas—For the first time in the history of the oil industry a general co-operation of oil geologists has been attempted as a means of furthering the general knowledge of the Permian and Pennsylvanian formations and a preliminary organization is successful.

This statement was made by S. B. Plummer, Texas chairman of the Committee for Co-operative Research in the Permo-Carboniferous Formations of the Mid-Continent, in announcing that a rough preliminary draft of outcrops on county survey maps of most Texas counties in which the Permian and Pennsylvanian is exposed is expected to be exhibited at a general meeting to be held in Fort Worth, November 17. The work covers nearly 75 Texas counties and embraces about 65,000 square miles of territory.

A dinner and evening meeting at Texas Christian University, where the maps will be exhibited, when all district chairmen will report on their progress, is planned. Preceding this, those attending will see the football game between T. C. U. and the University of Texas.

All of the information gathered by the committee, whose work is sponsored by the Society of Economic Paleontologists and Mineralogists, an organization affiliated with the American Association of Petroleum Geologists, will be made available for public edification, by counties and upon a general map.

The work is of tremendous scope, Mr. Plummer pointed out, making available non-confidential information in the files of individuals and oil companies which would require 10 to 15 years of work by any single oil company's geological staff. Every line drawn upon these maps represents days of walking out beds by field geologists and in many cases intensive study afterwards in laboratories, he said.

From the organization effected July 14 in Eastland, the committee has enlarged until all assignments have been by counties. The working plan is to have one geologist in charge of collecting and placing all information upon one map for each county. It is these maps which will be exhibited November 17.

A meeting of the Fort Worth district last week, of which H. B. Fuqua, Gulf Production Company, is chairman, revealed that preliminary maps covering all counties in the Fort Worth district will be ready for exhibition in November.

John L. Ferguson, Amerada Petroleum Corporation, Amarillo, reported that the Amarillo district, under the direction of C. Don Hughes, had made all county assignments and had begun work on the Panhandle district.

The compilation of an outcrop map of Permo-Carboniferous exposures in Texas is the one of three projects undertaken by the committee, which is under the general direction of Dr. Raymond B. Moore, University of Kansas, Lawrence. A detailed study will be made of the fauna of certain more important horizons and extended as far as possible through Oklahoma and Kansas, and if possible, in Nebraska, Missouri and Iowa; that is, all the states embraced in the Mid-Continent.

The third project is a detailed study of the Pennsylvanian sands and conglomerates, their origin, character and sedimentation, and the Texas committee as its part expects to obtain a sub-surface geologist to undertake this work.

The co-operation of every geologist and paleontologist is necessary to insure success, Mr. Plummer added, and the general committee invites correspondence and suggestions.

Houston.—The Texas Company now has around 450 barrels daily production in the Dale field, Caldwell County; and in the Branyon district of that county the company's Branyon 2 is producing around 40 barrels a day.

Mid-West Refining Company's State 1, Section 9-19s-28e, Lea County, New Mexico, got salt water at 4165 feet September 3 and was preparing to plug back to 4155 feet to an oil show.

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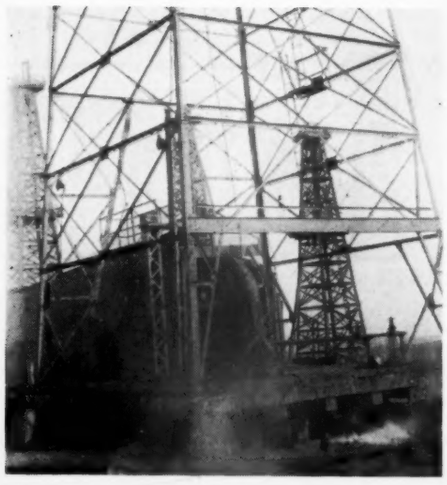

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Oil As a Rain Maker!

By WALLACE DAVIS
Staff Representative

THE oil business has always been somewhat of a mud-slinging proposition. I mean that literally, for who can remember but a bare few of the real booms of past years, especially where drilling was closely concentrated and development was rushing, that were not flooded with rain?

An old native of the famed Smackover community described oil field rains very appropriately not long ago in commenting on the boom days of that place. Referring to the time when more than 1000 cars of field equipment stood marooned on sidetracks awaiting such conditions when even ox teams could drag it to well locations, he said: "Brother, them rains woulda made Noah's flood look like a mornin' dew!"

Farmers and other fee owners have been blinded by the tolls of crude oil royalty and lease bonuses to the point where they have been unable to see the other colors of gold brought by those who came to drill their lands. Taking into account the precipitation before and after the average acreage is developed for oil the situation can almost be likened through comparison to irrigation and dry land farming. If the benefits derived by both fee and lease owners were fairly considered as an equitable give and take proposition then the farmers would have been paying "wet acreage" money to the operators long ago as commonly as "dry hole" money is swapped between brother oil men today.

Maybe oil din't have any thing to do with it, but the picture above shows what happened at Burkburnett during "Big Rush."

While politics is wrangling over farm relief so loudly that even prohibition has a hard time getting a decent hearing, why doesn't somebody take occasion to put in a good word for the oil industry, which has provided more relief to the farmers than all the politicians combined? Oil has promoted more farmers off the farm in California, Texas, Oklahoma, Kansas and Louisiana than cotton and all the other crops thrown in. Moreover, it has given these farms enough rain for the second crop of farmers to come in and make a worthwhile living out of it. If oil development continues to spread during the next decade as it has in the past, farm relief won't be an issue worth arguing over at the end of that time.

The importance of rain to the average

farm and ranch community prompts a reminder of the well-known old Western candidate for congress who attended a gathering of natives for miles around along with his three competitive candidates for the purpose of handing out three promises to the voters. They were: Lower taxes, good roads and better schools; but as fate would have it he was the last of the four to speak, and each of his competitors used one of his ideas, leaving him with nothing new to promise. Not to be outdone, though, he did some rapid-fire brain racking, and rose with this extemporaneous address: "Fellow countrymen," he bawled out, "what this community needs is rain, and if I'm elected, it'll get it!" That particular territory had suffered a drought for three years, and he was elected unanimously.

That old candidate must have been thinking about oil. Nobody has ever proved that development of a spot for oil has actually been the cause of bringing rain, but some of the driest spots in the country have been turned to oil production within the past six years, and invariably these spots have since had 200 per cent. more rain during that period than in any previous six-year period in recent history.

As to rainfall resulting directly from intensive development for oil, that's a problem for science and matter for scientists to muddle over. All the writer is interested in, as a representative of oil and a farm sympathizer (having personally knocked out a few rows in his day) is the fact that rain has, without question, followed oil, and in the old proverb of "What is, is." If no scientific angle whatever could be connected, then the examples of coincidental oil fields and rains would alone be sufficient to substantiate the theory that oil development brings rain.

Rain in Boom Fields

But, incidentally, oil as a rainmaker has been so striking within the recent past that it has aroused enough of scientific interest for considerable study. This interest grew out of common downpours that came to boom fields almost without exception. The dissipation of gases into the air, according to scientific discoveries, which caused certain atmospherical changes, is given as the leading factor in bringing rain. Other minor items, such as the concentration of heat liberated from boilers and field fires and the use of explosives, are given as contributors to atmospherical disturbances in areas of intensive development. The relation of oil and rain are considered along the line of wars and rain, where continuous shocks are attributed by science to be instrumental in causing rainfall. Moreover, along this same line the theory of rain-making through the use of high explosives sent into the air had its inception and gained fairly wide use 10 years ago along the southern section of the Pacific Coast.

But, not being a scientist nor ever a rain-maker, and therefore unable to prove that any oil field ever caused any rainfall, I'm willing to accept all the cases of oil and rain as accidental, if everybody else is agreeable, rather than become implicated in controversy or turn victim to comebacks from non-believers of oil as a rain-maker. It is only fair, though, that some of the outstanding accidents be enumerated so that those "on the fence" concerning oil's ability to bring rain may have a chance to reconsider, and take sides.

Consider the Big Ones

To begin near the beginning, take the drenching of old Spindle Top during the period of that great rush the industry has never seen duplicated, when a drilling boom followed the Lucas "gusher." The old timers tell how oil stood three feet feet deep in the low places due to lack of handling facilities. Some of them recall that about 50 per cent. of that was rain water from the deluge of rain that fell a few days after the first crop of wells started coming in. Nearly all of Spindle Top's early days was a battle of mud as well as oil, and the three-mile stretch between Beaumont and the field was fairly impassable. Maybe it would have rained without the oil, but anyway that's score one for oil as a rain-maker.

For lack of space we'll take only the big ones. Consider Seminole, for instance. It was fairly flooded for six months after the first drilling rush started and memory of muddy roads there will live as long as the oil. A mile an hour was fair time anywhere in the Seminole area, and numerous spots were impassable. Within the two years since Seminole's discovery, rainfall has continued at a rate of nearly 100 per cent. more than the average for the previous equal period. Like conditions came with Glenn Pool, Cushing, Burbank and Tonkawa, but it's the same old rain story, and could have been as accidental as Seminole.

Remember the battle of mud at Ranger, where the story of the hat found in Main Street mud originated. It is interesteing to note that the flooding of Burkburnett, Breckenridge, Mexia, Powell and Wortham was little different from that of Ranger. True enough, these places had seen rainfall before, but it is interesting that the period of oil development got the brunt of rainfall there for years past.

Another case, probably accidental, but true nevertheless, is had in the Kingfisher County neighborhood of Central-Western Oklahoma. Prior to intense exploration work in search for oil this area was found fairly barren as a prospective grain country. Within the past five years it has been developed into one of the state's leading wheat belts. Rainfall over the area has increased astonishingly, and it's a cinch drilling for oil did not help the bearing qualities of the soil.

In Pecos County, in 1918, there were ranchers who nailed boards over their windows, packed their few belongings and rode off, driving the cattle that were still able to walk to grazing lands. A drought of two years had about cleaned the country. Let one of those West Texas cowboys tell you how prairie dogs tried to dig holes in the dust clouds and you'll get an idea of how dry it was then. The truth of the matter is that West Texas has never suffered from water soaking, but you fail to hear of a protracted drought out there since oil was drilled in at Big Lake and Mitchell County. West Texas is as green as a wheat field as compared with the pre-oil days, and the rains that have slowed oil development on recent occasions didn't slow up ranch work in previous years.

Here's one probable accident that is truly rare, and can't be omitted. When the development of Hurghada field, Egypt, started, operators were reduced to shipping drilling water from Suez, 450 miles, by tanker to this veritable desert. Before the twentieth well was in, the place was flooded enough to supply water for every rig drilling at that time in the world.

What the farmers need is a few rotary rigs along with their farm equipment.

New Gas Line to Connect Little Rock With Supply

Shreveport La. — Contract for the laying of a ninety-six mile 10-inch gas line from the Johnson County Arkansas, field near Clarksville to Little Rock, will be awarded within the next few days, according to an announcement here Saturday by D. W. Harris, vice-president of the Arkansas Natural Gas Corporation, which will build the line.

The new line, which will have a daily capacity of fifteen million cubic feet, will furnish additional fuel for the city of Little Rock. The line under the provisions of a contract between the city of Little Rock and the Arkansas Natural must be completed by next January 1, or a penalty of $50,000 will be imposed. The line will be completed on schedule time, Mr. Harris declared.

Work of clearing the right-of-way for the line has already begun near Little Rock.

Reports that a line from Conway, Arkansas, to Little Rock is contemplated, were denied by Mr. Harris.

Contractors are now going over the plans for the Clarksville-Little Rock line. The Arkansas Natural has large holdings in the Johnson County field. The tract had two gas wells when acquired by the Arkansas and since then it has completed three others. The wells so far completed have an open flow of 55 million feet daily.

The D. S. Mair Machinery Company, 505 Esperson Bldg., Houston, Texas, has been formed by D. S. (Stanley) Mair, to handle machine tools and accessories. Mr. Mair has been for 17 years with the Jos. T. Ryerson and Sons Company as branch manager. This organization is familiar with the requirements of the oil industry in the way of machine tools etc. Mr. Mair states that a complete line of Landis Chasers, made by the Ladis Machine Company of Waynesboro, Pennsylvania, is carried in stock in Houston. The D. S. Mair Machinery Company are the representatives for Landis Machine Company in Texas.

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Big Lake Well Smashes Depth Record

Test continues drilling after having passed 8255 feet. Makes oil from pay below 6,000 feet

By H. H. KING
Staff Representative

FORT WORTH, Texas — Having smashed all previous record depths of tests drilled for oil or gas production, the Group No. 1 Oil Corporation's University 1-B, located in the Big Lake field, West Texas district, is making good progress in establishing new depth records while drilling with cable tools in black lime formation at 8255 feet. This well is flowing high gravity sweet oil by heads at brief intervals from the last oil and gas horizon encountered at 6284-99 feet, thus making it the deepest producer in the Southwest. Drilling is to be continued as far as possible in the above well, according to Frank T. Pickrell, vice-president and general manager, and if a lower pay is not encountered the hole will be plugged back and given a shot in the horizon now making oil and gas.

Group No. 1 Oil Corporation is a producing subsidiary of the Texon Oil & Land Company of Delaware, and also discoverer of the Big Lake field, which was scored from the first test drilled in Reagan County and on a drilling block of 64 square miles of University of Texas' permit lands.

In the event another oil producing horizon is encountered by the University 1-B it will also gain the record of being the deepest producer in the world, taking same away from the Chanslor-Canfield-Midway Oil Company's Olinda 96, which encountered small showings of oil and gas below the 8000-foot level late in 1926 before it developed a bad hole at 8046 feet and ceased operations, and the Miley Oil Company's Athens 6, located in the Rosecrans field, California. The latter well developed flowing production in limited quantities at 7591 feet, while the Olinda 96, located in the Brea-Olinda field, California, was plugged back to the "regular" deep pays to try for a commercial well after developing a bad hole with 4½-inch casing at 8046 feet.

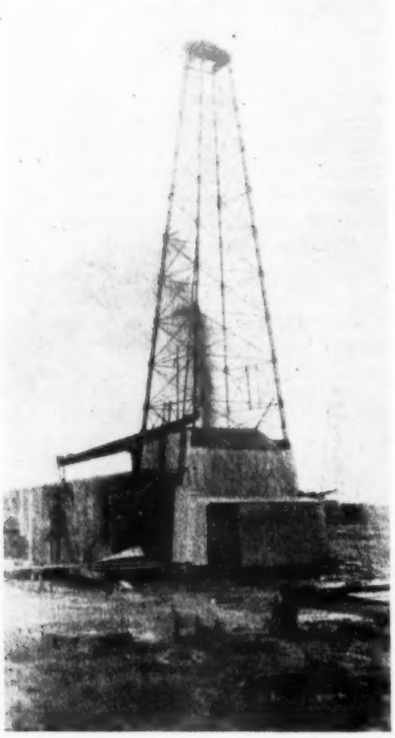
Interest was aroused as to the prospects of a deep pay in the Big Lake field when the Group No. 2 Oil Corporation, which is also a subsidiary of Texon Oil & Land Company, drilled a wildcat test on the east side of the producing structure and in the southwest corner of Section 22, Block 9, University Lands, and missed the shallow pay at the 2400-foot level and the Texon pay at 3000 feet, but encountered favorable formations in going to the 6002 foot level. This wildcat was started in May, 1924, and was ordered abandoned in January, 1925. This deep test was proven to be off structure, but formations logged below the Texon pay gave encouragement of carrying production if structural conditions were ideal.

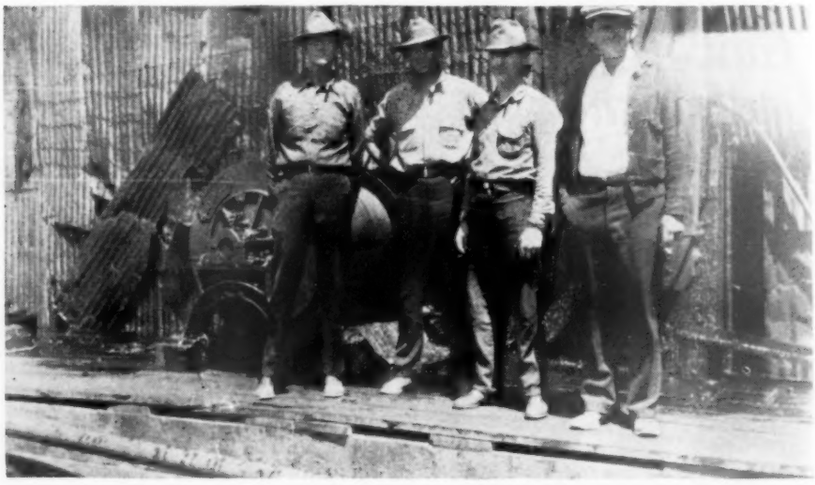
University 1-B, located 250 feet from the west line and 88 feet from the north line of the southwest quarter of Section 36, Block 9, and surrounded by production, was selected by its owners to make a try for a new pay after having made a producer in both regular horizons established in the field. This test was spudded February 8, 1926, and topped the salt horizon at 1110 feet, with a surface elevation of 2733.6 feet. The first pay was encountered at 2464-69 feet, registering an initial flow of 320 barrels natural in April, 1926. Approximately 32,152 barrels of oil was produced from this horizon before water intrusion made it necessary to plug off and drill to the Texon lime, which made gas at 2900-10 feet, and oil at 3020 feet, with the top of the big lime reported at 2780 feet, or 130 feet in the lime. A small producer resulted from tapping this horizon, and the owners selected this hole to carry out their intentions of making a thorough test of the lower horizons on the Big Lake structure.

Casing off the Texon pay with 6⅝-inch casing cemented at 3080 feet, the University 1-B developed small showings of oil in sand at 4621 and 4766 feet. A string of 5 3/16-inch seamless casing was landed at 4218 feet, but when the third oil and gas producing horizon, which is now furnishing production coming from the well, was encountered late in June, 1927, at 6284 feet, the small pipe was straight reamed to 6184 feet and cemented with 98 sacks of cement. The column of oil in the hole rose slowly after drilling into this pay, with about 200,000 cubic feet of sweet gas in evidence. When the crew drilled out the cement plug the well made a head of about 250 barrels of 41.5 gravity oil.

During August several tests were made

(Continued on page 62)





At the left is the Texon Oil & Land Company's University B-1. The crew that drilled the well which has broken all previous depth records, are from left to right: W. H. Clifton, driller; Harry Cromwell, toolie; D. E. Vandwart, driller and L. H. Linsford, toolie.

GROUP NO. 1 OIL CORPORATION UNIVERSITY WELL NO. 1-B, REAGAN COUNTY, TEXAS

Location: 250 feet from west and 2828 feet from north lines of Section 36, Block 9

Elevation: 2733.6

Commenced: February 8, 1926.

Yellow surface	10
Shells	60
Blue gumbo	100
Hard blue lime	150
Soft white lime	300
Sand (water)	375
Sand and red rock broken	510
Red rock caving	548
Sand (water)	565
Sand and lime	650
Red rock	700
Sandy shale	720
Sand (water) 4 bwph	765
Red rock	825
Sand (water) 4 bwph	840
Red rock	1050
Lime	1070
Red rock (top salt)	1110
Salt	1655
Red rock caving	1720
Lime	1728
Salt	1740
Red rock and shells	2080
Red rock and salt	2290
Red sand and lime	2360
Lime	2385
Sand and red rock	2425
Red rock	2440
Red sand	2450
Hard sand	2462
Oil show	2464
Oil	2469
400,000 cu. ft. gas	2461-2466

(33,975 barrels oil produced from this depth. Dropped string of 3-inch tubing and rods 300 feet at 2466 feet. Fished out tubing, rods and 45 feet of 5 3/16-inch line with 5 3/16-inch to 6⅝-inch swedge nipple and 6⅝-inch shoe on top. Bottom joints perforated bull plug in bottom joint.

Red sand	2575
Sand	2580
Shale	2590
Sand and lime	2600
Sandy shells	2630
Red rock and sand	2650
Red rock	2665
Lime	2670
Gritty lime	2682
Gritty lime with sand	2700
Sandy shale	2710
Shale	2726
Lime	2740
Shale	2760
Lime	2765
Shale	2770
Lime	2820
Sand and lime	2840
Sand and lime and shale	2850
Lime	2900
Sand and lime	2920
Gas	2900-2910
Lime broken	2950-2980
Sand, shells and shale	2980
Sandy lime (top second pay)	3020

(Texon pay cased off and not produced.)

Sandy shale	3050
Dark shale	3070
Lime	3095
Broken lime shells	3125
Broken lime shells	3148
Hard gray lime	3165
Gray lime	3190
Hard gray lime	3290
Lime	3306
Slate	3316
Broken lime shells	3340
Lime shells	3360
Sand	3370
Lime	3375
Shale	3390
Lime	3395
Sandy lime	3400
Lime	3410
Sandy black lime	3420
Sand (water)	3470
Hard close sand	3480
Hard sand	3482
Lime	3513
Shale	3545
Lime shells	3560
Shale	3610
Lime	3654
Shale	3690
Sand	3710
Lime	3718
Shale	3730
Sandy lime	3766
Sandy shale	3778
Lime	3788
Sandy lime	3834
Shale	3882
Sandy shale	3910
Sand	3918
Shale	4216
Sand	4230
Shale	4505
Sand	4515
Shale	4545
Sand	4554
Sandy shale	4590
Shale	4595
Sand, oil show	4621
Sandy shale	4761
Sand, oil show	4766
Sandy shale	4860
Shale	4985
Lime	4993
Shale	5315
Black lime	5490
Lime, gray, hard	5570
Lime gray	5620
Black lime	5660
Hard gray lime	5680
Gray lime	5725
Black lime	5760
Lime	5820
Hard lime	5860
Hard gray lime	5900
Lime	5940
Soft gray lime	6000
Lime	6040
Gray lime	6075
Black shale	6130
Gray sandy lime	6140
Black lime	6160
Hard black lime and shale	6200
Black shale and sandstone	6250
Gray lime (top third pay)	6284
Sand and oil show and gas	6299
Broken shells and black shale	6315
Shale and sandstone	6320
Shale	6330
Black lime	6340
Shale	6350
Lime and shale shells	6365
Hard gray lime	6400
Lime	6425
Hard gray lime	6441
Lime	6473
Hard lime	6483
Hard sandy lime	6500
Lime	6528
Lime and shale	6558
Lime	6576
Used speedometer measurement at	6576

(Measured up 6555 feet.)

Hard black lime	6555-6710
Black lime and shells	6710-6760
Lime	6760-6770
Black shale	6770-6785
Black lime	6785-6800
Black shale	6800-6815
Hard black lime	6815-6820
Hard lime and shells	6820-6825
Black shale	6825-6840
Black lime and hard shells	6840-6845
Sandy lime	6845-6860
Hard black lime	6860-6925
Medium black lime	6925-6945
Hard black lime	6945-6965
Medium lime	6965-6985
Harder black lime	6985-7140

(2500 feet of oil in hole.)

Harder black lime	7140-7170

(Swabbed 2 feet in gunbarrel.)

Hard black lime	7170-7210
Black shale	7210-7220
Hard black lime	7220-7230
Black slate	7230-7250
Hard black lime	7250-7345

(Shale running in hole slows up drilling. 1-24-28, swabbed 1 ft, 3 inches.)

Hard black lime	7345-7390

(Repaired sand reel 18 hours.)

Hard black lime	7390-7495

(Shut down from 1-27-28 to 1-30-28, repairing sand reel, installing extra brake wheel and putting in new tug posts, put tug on bull wheel's shaft and cemented shaft. Two new ⅞-inch x 4500 foot Hazard Drilling lines were put on 11-8-27, at 6160 feet. New ⅞-inch x 4500 foot Hazard Drilling line put on at 7495 feet had cut-off about 1200 feet of lines that were put on 11-28-27.)

Hard black lime	7495-7535

(Lost and fished out bailer at 7535 feet, 2-10-28.)

Very hard black lime	7535-7545

(Swabbed and spliced line.)

Hard black lime	7545-7646
Gray hard lime	7646-7660
Hard sandy black lime	7660-7670
Hard black lime	7670-7705

(Spooled top cable and run on another 4500 foot x ⅞-inch Hazard, installed sand sheave pulleys and clutch on band wheel (down 18 hours.)

Hard black lime	7705-7750

(Swabbed. Down 18 hours rebabbiting brake wheel.)

7750-7760

(Spliced cable, put on brake band, crown and sand line pulleys.)

7760-7770

(Run two splices in cable.)

Hard black lime	7770-7780

(Swabbed 6 inches.)

Hard black lime	7780-7850

(Swabbed 6 inches.)

Hard black lime	7850-7955

(Cable broke, lost tools in hole, went in with fishing string and lost them in hole. Fished from 3-21-28 to 3-28-28. Fished out both strings. This fishing job at 7955 feet 3-28-28. Run on new ¾-inch x 10,000 feet black drilling line and new ½-inch x 10,000 feet black sand line. These lines installed 7955 feet. 3-31-28 swabbed and cleaned out.)

Hard black lime	7955-8062

(4-11-28 burned out motor and transferred one from well No. 61. 4-21-28 changed motors and swabbed.)

Hard black lime	8062-8160

(Changed motor controls.)

Hard black lime	8160-8180

(Swabbed 50 barrels.)

Black slate	8180-8225
Black lime	8225-8230

(Well burned at 1 a.m., depth 8230 feet.)

From May 1 to May 26, cleaning up and rebuilding rig after fire.

From May 27 to May 31, waiting on motors.

From May 31 to June 11, rigged up.

From June 12 to July 16, shut down, waiting on motors.

June 26, well flowed 117½ barrels.

July 16 to 17, rigged up.

July 18, fishing for bailer.

July 19, fished out bailer and sand line.

July 20 to July 27, shut down waiting on motors.

July 28, installing motor and control. (Transferred from Texon University 1.)

July 29 to August 9, waiting on sand line.

August 3, well flowed 92½ barrels.

May 12 to 28, put on new ¾-inch x 6 x19-10,000 foot R. L. Plow Steel Black Wire and Steel Company Drilling Line and new ½-inch x 3000 foot-6 x 7 Plow Steel Black Wire and Steel Company Sand Line. This drilling line used to fish bailer and old sand line out of hole.

1st water sand	375 feet
2nd water sand	765 feet
3rd water sand	840 feet
4th water sand	3470 feet
Top of salt	1110 feet

First oil show, 2464 to 2469 feet—Pay.

400,000 cubic feet gas at 2461 feet.

Gas from 2900 to 2910 feet.

Top of second pay 3020 feet.

Oil show at 4621 feet.

Oil show at 4766 feet.

Top of third pay 6284 feet.

Oil show and gas at 6299 feet.

Casing Record

15½-inch	769 feet
12½-inch	1820 feet
10-inch	2450 feet
8¼-inch	2825 feet
6⅝-inch	3080 feet
5 3/16-inch	6184 feet

(First set at 4218 feet. Straight reamed to 6184 feet and set 5 3/16-inch 20 foot Seamless Casing.) Cemented with 98 sacks.)

4-1-27, knocked pin off bit and fished out at 4044 feet.

Well burned 5-26-27 at 4 p.m. Depth 5315 feet.

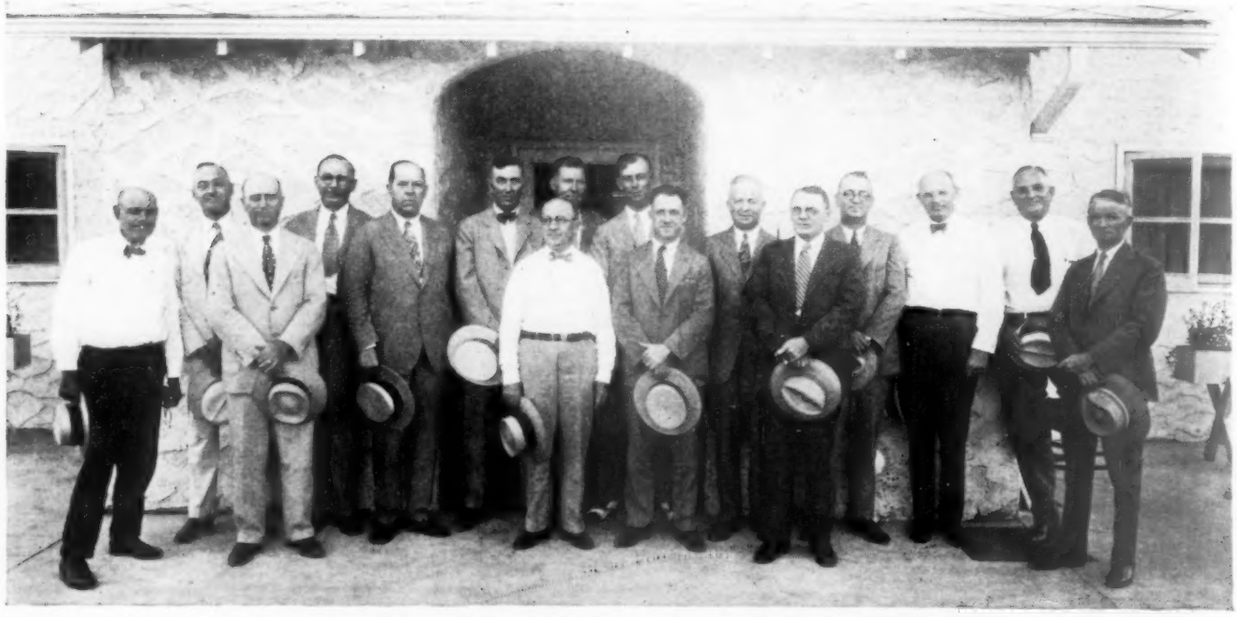
Rigged up from 5-26-27 to 6-13-27, started drilling 13th.

July 20, lost and fished out bailer at 6473 feet.

Shut down from 7-29-27 to 8-27-27 waiting for and installing electric motors.

Motors installed at 6573 feet.

EXPOSITION OFFICIALS INSPECT GROUNDS



Left to right—B. E. Horrigan, A. F. Bourne, William Holden, Alf G. Heggem, W. G. Skelly, president; D. D. Wertzberger, Frank Hinderliter, J. M. Post, W. M. Bovaird, J. Burr Gibbons, general manager; Brooks Gutelius, William Schlueter, Charles P. Dimmit, Clyde Alexander, A. W. Leonard and P. D. Hayes.

Big Lake Well Smashes Depth Record

(Continued from page 60)

of the well. During one of these when the well was swabbed, it made about 100 barrels. Latest reports show the well fishing for a bailer at 8255 feet.

Interesting equipment records are available for the test: The first drilling was with a steam engine which was used to 2466 feet, at which depth the well was put on the pump. A 25-horsepower Tico gas engine was set at 2466 feet; it was used to pump the well and also for drilling to 2570 feet. At that depth another steam engine was installed and used for drilling to 2690 feet. The Tico was again set up and used to carry the hole down to 3020 feet. A Clark oil engine was then put in and used for a fishing job. When the fishing was completed another steam engine was set up and used until the hole reached a depth of 6573 feet. At that depth motors were installed and are being used now.

Belting used has been as follows: 7-28-26, 131 feet six inches of 14-inch six-ply Goodyear F. S. belt; 8-28-27, 119 feet of 14-inch six-ply Rough Rider belt; 7-16-28, two 37-foot six-inch 12-inch six-ply Wilcox special endless belts; 7-19-28, 41 feet eight inches of 12-inch six-ply Rough Rider belt.

The following bull ropes have been used: 7-13-27, one 2½-inch x 90 feet Wall bull rope; 8-26-27, one 2½-inch x 90 feet Hoover & Allison bull rope; 11-6-27, one 2½-inch x 90 feet Wall bull rope; 11-6-27, one 2½-inch x 90 feet American bull rope; 2-9-20, two 2½-inch x 90 feet American bull ropes; 3-19-28, one 2½-inch x 90 feet Plymouth bull rope; 3-21-28, one 2½-inch x 90 feet Plymouth bull rope; 6-3-28, one 2½-inch x 90 feet Hoover & Allison bull rope; 7-16-28, one 2¾-inch x 95 feet Plymouth bull rope; 7-16-28, one 2½-inch x 90 feet Hoover & Allison bull rope.

TULSA.—Directors of the International Petroleum Exposition & Congress last week paid a group visit of inspection to the plant in order to get an impression of improvements incident to the annual event of October 20 to 29. The work necessary to putting the plant in proper condition as well as the work of some of the early exhibitors was under way at the time.

Improvements and changes have been for the purpose of providing larger exhibit space and also to provide comfort for visitors and exhibitors. Space reservations are now 35 per cent ahead of the 1927 Exposition. There will be still other spaces sold but the amount will not be large, since most of the space has been taken.

The experience of wet weather in 1927 prompted the Exposition management to make provisions against a repetition of such weather this year, although the dates have been changed from September to October in an effort to escape inclement weather.

Ample concrete sidewalks are the chief improvement from the comfort standpoint. These walks, seven inches thick, are from eight to 15 feet wide. Five ribbons of concrete run east and west. Two of these are 330 feet long and two are 175 feet long, while the third is 190 feet long. Two walks north and south are 330 feet long, while two are 550 feet long.

The exposition buildings have been equipped with skylights of steel and glass combination. This will afford ample ventilation, as well as assure ample light.

Demands of exhibitors made it necessary to increase water and gas facilities. Three sizes of water mains have been provided, 16-inch, 18-inch and 20-inch. Gas mains will afford natural gas of 30 pounds pressure and down to a pressure of eight ounces.

The light and power plant has been rewired.

The entrance gate has been so arranged that street cars will make a loop at the entrance. Permanent entrance gates have been provided and additional ground has been added 90 by 145 feet. Grass and shrubs have been planted.

The parking space for exhibitors has been covered with crushed rock.

A new Red Cross and day nursery has been provided. There is a new residence building for the superintendent of grounds. Two rest room buildings have been provided and equipped. All buildings have been given additional concrete porch space and benches will be provided for rest.

The administration building has been remodeled. It will have in it this year branch offices of the Western Union and Postal telegraph companies, the Southwestern Bell Telegraph company, a branch of the Tulsa post office, express and freight offices, an information bureau as well as facilities for registration and validation of tickets.

When it was decided to make the Exposition an annual affair all efforts were turned to providing larger and better facilities. The enlargement has been justified by the fact that 35 per cent more space has been sold than was used in 1927. Very little more space is available for the 1928 Exposition.

Comfort and convenience of both exhibitors and visitors was the next concern of the management. The added facilities together with the experience of past years will be devoted to making the Exposition throngs comfortable.

Edge Wells and Wildcats Hold Louisiana Interest

More failures in Champagnolle area shift interest from Arkansas field to outside locations in Sabine Parish

By W. W. MOORE

SHREVEPORT, LOUISIANA—With the Champagnolle field in Union county, Arkansas, recording nothing but failures aside from one gasser on the extreme northwest edge during the last week, interest in the tri-state territory embracing North Louisiana, South Arkansas and East Texas turned to edge wells and several interesting wildcats, chief of which was the Plymouth Oil Company's Logan A-2, in 23-10-13, Sabine Parish, Louisiana, which tested 150,000 cubic feet of gas daily at 4263 feet in what is believed to be the Trinity sand.

While the well was too small to be completed as a commercial gasser and is being deepened, drilling in the hole now being under way at 4268 feet, the well created more than a flurry of interest, coming as it did on the heels of a showing of gas in The Texas Company's Hamlin 1, in 28-10-13, of the same parish, which tested 132,000 cubic feet of gas daily at a depth of 3682 feet, in what is believed to be the Ouachita formation. This well also was too small to be completed as a commercial gasser and is being cored from this depth.

These two wildcats are several miles west of the producing field in the Pleasant Hill district, the Plymouth Company's well being over six miles west of production and The Texas Company's test over four miles a little north of west of proven stuff. In 3-10-13, two to four miles north of them, Benson Oil Company also completed a wildcat producer good for 40 barrels at 3025 feet.

While the wells have created interest, those familiar with drilling in this area declare that shows of gas of this amount are not uncommon, although shows of this size at such deep levels are out of the ordinary. The show in the Plymouth well is considered of greater importance than that in The Texas Company's well, as it is the Trinity horizon that was tapped in 1924 in the Pine Island district of Caddo Parish by the Dixie Oil Company on its Robertshaw lease at around 3650 feet and later developed some fairly good producers around the 3900 foot level although salt water encroachment has made itself forcibly felt.

The Trinity sand has also intermittently aroused interest in the Cotton Valley field of Webster Parish, where two large gushers were completed earlier this year by the Ohio Oil Company on the Bodcaw lease, in 14-21-10, the wells later falling off to only small producers. Small gas-pay in the Trinity sand in that field, which is encountered from 4400 to 4700 feet, have been added from time to time for the last three years.

The Reliance Company's Kelly 1, in 9-17-14, of Champagnolle, was the only well to enter the completions column from that field that was not a failure. This well, the furthest northwest of that field that has not been a dry hole or a salt water well, is gauged at 50 million cubic feet of dry gas daily, total depth being 2808 feet, the rock pressure being 1120 pounds.

An effort to extend the Champagnolle field four miles east failed when Lyell and associates' Stegall 1, in 11-17-13, tested dry at 3350 feet and was abandoned. Another well on the northeastern tip of the producing field that was a disappointment was Ohio Oil Company's Carroll 1, in 6-17-13, which tested salt water at 3001 feet. In the section just west of this well the same company's R. A. B. Smith, in 1-17-14, was dry at 3112 feet.

Two interesting Union County wildcats that have held promise of possible producers ended in disaster during the week, H. L. Hunt's Dopson 1, in 3-19-12, being abandoned as a dry hole at 3307 feet. J. O. Moore's Pagan 1, 18-18-11, after showing considerable oil at 3247 feet, was drilled deeper and salt water appeared, forcing the abandonment at 3305 feet.

Chicot County, Arkansas, also contributed to the list of wildcats that were failures during the week when S. D. Hunter was forced to junk and abandon his Lytle 1, in 9-19-3, at 3128 feet after the drill stem had become stuck.

Hope that the producing area of Champagnolle may be extended directly south from the discovery well of that field in 1-17-14 is being held out by a showing of gas in Ohio Oil Company's Furlow 1, in the extreme northwest corner of 12-17-14, which tested 10 million feet of gas through the drill stem with total depth of 2962 feet. If this well should be completed as a producer it would be the first oil well in Section 12.

The status of Sun Company's Schmidt 2, in 16-17-14, on the western edge of the main field, which has been blown with gas for a test and is flowing 4000 barrels of fluid 90 per cent. salt water at 2875 feet, continued practically unchanged except that the salt water is said to be slightly increased.

To the southwest of proven territory in Champagnolle, or rather between it and the old Calion or East El Dorado field, Root Refineries continued their preparations for standardizing Mullins 1, in 21-17-14, offsetting the same company's Jerry 1, in the same section, completed as a producer some time ago.

Louisiana contributed the entire volume of initial production during the week, which amounted to only 250 barrels from four producers, three of these being in the Pine Island district of Caddo Parish and the fourth being in the Urania field of LaSalle Parish. The three producers in Pine Island were all at different levels, the shallowest being the Dixie Oil Company's ninety-fifth well on the Robertshaw lease, in 13-21-15, completed at 1705 feet in 198 feet of chalk rock and pumping 25 barrels. The Magnolia Petroleum Company added a 50-barrel pumper in the Trinity sand when it completed its D. H. Raines 26, in 22-21-15, at 3975 feet, this being an old well deepened to the lower pay. Shreveport Oil Corporation's Etchison 1, in 32-21-15, at 2130 feet in 10 feet of broken sand, was the third Caddo well and was good for 100 barrels. The fourth producer, a Urania well, was H. L. Hunt's Urania B-7, in 7-10-2e, LaSalle Parish, which gauged 75 barrels.

Another attempt to uncover oil or gas in Winn Parish ended in failure during the week when Calvin Oil Company tested dry in its L. & A. 2, in 9-11-4e, at 1702 feet.

Altogether, in the tri-state area there were beside the four producers, four gas wells and 10 failures during the week as compared to five producers, with a combined initial of 1527 barrels, seven gassers and 12 failures the preceding week.

Eleven new locations were made during the last seven-day period, four of which are in Arkansas, five in North Louisiana and two in East Texas.

In Ouachita County, Arkansas, McDonald Brothers made location and in fact are already moving in a derrick pattern for Wilson 1, in the northeast of the southwest of 25-15-18. S. D. Hunter is at the same stage in his Sawyer 1, a wildcat in 19-18-2, of Chicot County. In Union County, the Champagnolle field obtained a new location, its only one for the week, when Ohio Oil Company made location for its Kate Townsend 1, in 10-17-14.

H. L. Hunt is rigging up to deepen his Dykes 1, in 21-18-12, of Union County, which had been closed down for several months. The well was started a year ago and was shut down twice during its operation. It is in the vicinity of J. O. Moore's Pagan 1, in 18-18-11, the wildcat, that was abandoned this week after showing considerable promise, but later tested salt water.

In the Pine Island district of Caddo Parish, Louisiana, C. G. Gibbins and associates have made location for B. H. Gibbins 1, in 15-21-16, while in the Lucknow district of the Richland gas area, Community Oil & Gas Company has made two locations, Boise 1 and Boughton 1, both in

33-16-6e. The latter has been spudded in and is drilling at 50 feet. In the Lake Bisteneau district of Bienville Parish, Baca Drilling Company has made location for its State 1, in 16-16-10w, a wildcat area, but near where several salt domes have been encountered. Louisiana Public Utilities' Williams 1, in 22-12-12, in the Naborton district of DeSoto Parish, completes the new locations for this state.

East Texas' two new locations are Magnolia Petroleum Company's L. Fletcher 2, in the Jordan survey and Davis and Pigg's Ed Lambert 1, in the William Lambert survey of Cass County. The Magnolia's new location is in Panola County.

Richland parish's gas field recorded its third cratering well since its discovery November 1, 1926, this week, when W. C. Feazle's Pardue 1, in 6-16-5e, completed as a large gasser in July and capped, began to form craters several hundred feet away from the well. Some of the gas began escaping in the bed of Bayou Bouef, forming geysers. Defective casing in the shallow sand is blamed for the outbreak. Operators and conservation commission officials immediately took steps to stop the cratering and opened the well. Fred Stovall, of the Stovall Drilling Company, was placed in charge of relief work and supervised the building of a relief derrick. It was hoped to have the well under control early in the week, possibly by Wednesday. The well was completed around 2450 feet as a 30 million foot gasser.

Louisiana Permits Total 467 for Year

Shreveport, Louisiana—A total of 467 permits for drilling for oil and gas in Louisiana have been issued for the first eight months of 1928, according to figures just released by the minerals division of the state conservation commission. Including 352 permits to abandon, 42 to deepen, three to plug and perforate, 23 to abandon temporarily, ten to sidetrack, four to shoot casing and three to whipstock, a total of 904 permits have been issued for the first two-thirds of the year. Fifty-two permits to drill were issed during August, beside five to deepen, forty-three to abandon, one to side-track and four to abandon temporarily making a total of 105 for the month.

Arkansas Enters Suit For Taxes

Camden, Arkansas—Suit against three oil companies for back taxes alleged to be due the state of Arkansas has been filed in Ouachita county Chancery court by Attorney General H. W. Applegate representing the state of Arkansas as plaintiff. The Humble Oil and Refining Company, The Louisiana Oil Refining Corporation, and the Gulf Refining Company were named as plaintiffs in the suits.

The companies are alleged to have failed to assess their properties in Union and Ouachita counties according to law.

In the suit against the Humble the plaintiff claims that defendant assessed its Union county property in 1925 for only $146,765 while the real value, it is charged, is over $2,000,000. In Ouachita county, it is alleged the company assessed only $220,870 when the holdings were worth approximately $3,000,000.

The Louisiana is charged with having assessed its Union county holdings at $84,325 in 1925 when the property is claimed to be worth $1,000,000. In Ouachita county the state claims the company's assessment was only $100,500 when it should have been $1,500,000.

For the same year the Gulf was charged with having assessed Union county property at only $738,495 when it should have been $8,000,000 and in Ouachita its holdings were assessed at $228,685 for that year when the state says they are valued at $2,000,000.

A subpoena duces tecum for the books of the three defendant firms and liens on their property until taxes alleged due are paid was asked in the suits.

Lines Nearing Completion

Big Springs, Texas.—Several short pipe lines will be completed to the Howard County fields soon. Humble and Atlantic are each laying lines to the field. Humble will maintain offices at Big Springs.

The Big Springs Pipe Line Company with Joseph Edwards as president is soon to complete its line from the field to the refinery site west of town. Cosden has started work on a line from the field to his refinery site east of town. The Reese Allen line will run parallel with Cosden's line to Allen's refinery site which is near where Cosden's refinery will be.

Work on Panhandle Gas Line Rushed

Bartlesville, Okla.—The three main line gangs now engaged in the construction of the 132-mile Wichita to Ottawa extension of the Cities Service Gas Company's 20-inch Panhandle natural gas pipe line have laid a total of 80.56 miles of pipe and, with the project 66.2 per cent complete, are operating in excess of their required schedule. The original estimate called for the completion of this work by October 1, but the conractors, the Oklahoma Contracting Company of Dallas, Texas, have organized new gangs and increased others in an effort to have this line completed and service established before the advent of cold weather.

The Ottawa, Emporia and Wichita gangs have cleared a total of 121.9 miles of right-of-way, strung 116.9 miles of pipe, opened 88.15 miles of ditch, painted 85.76 miles of pipe, head welded 96.5 miles and backfilled 80.56 miles.

Good progress is also being made on the White Water and Neosho river crossings, each of which will be crossed with four 12-inch and two 16-inch lines. On the Neosho crossing, 7,000 feet of 16-inch and 4000 feet have been laid, 28 river clamps have been installed and the four 12-inch lines have been pulled across the river. Two 12-inch lines have been pulled across the White Water river, six 12-inch clamps installed and 1,200 feet of 12-inch pipe laid.

Preliminary work is progressing rapidly on the construction of the third 16-inch line between Ottawa and Kansas City where it will tie into the present system at the Glavin station. This will be a welded line 38.8 miles long and will be known as the Ottawa-Glavin loop. The contractors, Kelly-Dempsey company of Tulsa, estimate that this loop will be completed about October 3.

All pipe has been shipped, paint and couplings have been received and pipe is now being strung for the construction of a 5-mile 20-inch line that will extend beyond Glavin station into Kansas City. The Truman-Smith Construction Company of Eldorado, Kansas, estimate October 1 as the completion date.

Pays 50 per cent Dividend

Abilene, Texas.—Moutray Oil Company with headquarters here, recently issue a 50 per cent stock dividend. The concern is capitalized for $80,000. It is said that the recent dividend brings the total to 300 per cent during the past three years.

Principal producing properties of the company are in Callahan County, south of Baird. In this district the company owns production totaling about 900 barrels daily, of 39 gravity crude.

C. S. Berentz, Pure Oil Company production superintendent in Kansas fields, has been transferred to the northeastern Oklahoma district, and has been succeeded in Kansas by H. A. Sartshorn.

Some New Activity Noted In Brownwood Area

Brownwood, Texas.—Notwithstanding the fact that last week was quiet in the Brownwood district, a slight amount of new production was added and a few new tests were started.

Activity is concentrated in the area between Blake and Cross Cut, in the northwestern part of the county, following the completion of J. S. Armstrong No. 3, by Anna Belle Oil Company. The well made 150 barrels after having been shot. Offsets to the producer are being drilled on the north and northeast.

Kone Production has two wells drilling in the Blake area and the Midland Oil Company is to start two soon.

A test being drilled on the Ike Cable farm, two miles northeast of Zephyr has reported an oil show at 900 feet. It is now drilling ahead.

Three miles west of the town of Brownwood where attempts are being made to uncover lime production, one test is on top of the lime, another is below 1250 feet, and a third is spudding.

On the Leslie tract south of Thrift Ralph Hart of Brownwood has spudded in on a new test. W. T. Daniel et al has a test drilling on the same tract.

PERSONAL MENTION-MEN YOU KNOW

Otis Wolfe, 25, chief engineer of the Magnolia Pipe Line Company, with headquarters in Crane was killed Wednesday when a three-inch cannon, which was being tested, discharged while he was swabbing the gun.

A three-inch ball entered his stomach, killing him instantly. Both hands were shot off and one was not recovered.

The cannon was to be used in case of oil tank fires, when the tanks are perforated with the balls to keep the oil from boiling over. The gun was new and was being tested three miles from the Magnolio camp. One shot had been fired and Wolfe had started to swab the piece standing directly in front when, in some unaccountable manner the gun went off again.

W. W. Spreng is now manager of petroleum sales for E. I. Du Pont de Nemours & Company, having assumed the duties of that position some months ago. He has been with the company over 21 years, and for the past three years was Western industrial sales manager, located at Chicago. In connection with his new position: the division name "Petroleum Sales" does not mean that the company is engaged in the sale of petroleum in any way, but rather that it is a supplier of protective coatings for all needs in the petroleum fields in all its divisions, including pipe lines.

Monroe Latham, assistant to the chief statistician of Humble Oil & Refining Company at Houston, is spending his annual vacation in Colorado.

D. T. MacLeod, president of the Perfex Corporation, builders of heavy duty truck and industrial engine cooling radiators, announces that at the last directors meeting, Mr. Roger Birdsell, sales manager of the corporation, was elected to the directorate and made vice-president.

H. V. Foster, president, and C. N. Caldwell, vice president and treasurer, Indian Territory Illuminating Oil Company, Bartlesville, Oklahoma, recently completed a trip through the Pacific Coast and Rocky Mountain country following a vacation spent in Honolulu.

J. Frank Champion has resigned as superintendent of the Central Texas division of the Prairie Oil & Gas Company, after having served in that capacity for about six years. He has been succeeded by E. L. McMillen.

T. L. Golay of Denver, Colorado, spent several days in Tulsa last week in business. Mr. Golay was formerly president of the Marland Oil Company of Colorado.

ALLMAND M. BLOW

of Tulsa who has recently been promoted to vice president and general manager of the Amerada Corporation, succeeding John M. Lovejoy, who resigned to enter the oil business in New York on his own account. Mr. Blow's headquarters will remain in Tulsa.

Oscar Bond, president of the Bond Torpedo Company, Sapulpa, Oklahoma, recently spent a vacation in Bradford, Pennsylvania, where he formerly lived.

M. J. Keoughan, assistant to the head of production for Continental Oil Company, Tulsa, has recovered from a protracted illness resulting in a major operation at Rochester, Minnesota. He has recently spent some time convalescing in the South.

Fred E. Cooper, special winch developer of the Advance-Rumely Company with headquarters in Tulsa, has returned to his office after a three weeks' trip through Kentucky and Indiana and other points in the East as well as Colorado and New Mexico. While in Indiana he visited at the factory of Advance-Rumely at La Porte.

Henry Chalfant of Pittsburgh, chairman of the board of Spang, Chalfant and Company, manufacturers of oil country tubular goods, died in France, August 27th, while on a tour of Continental Europe. He was well known in Pittsburgh and throughout the East, having been active in commercial and civic affairs in the city for many years.

F. E. Bernsen, vice-president and general manager of the Lucey Products Corporation, Tulsa, has returned from an extended business and pleasure trip during which he visited several of the company's branch offices and made a trip into Canada which, incidentally was on the "pleasure trip" list.

Bob Jones, of the sales department of the D. F. Connolly Agency, Tulsa, has returned from a vacation spent at Colorado Springs.

H. D. Crawford, of the Parkersburg Rig and Reel Company of Parkersburg, W. Va., was in Tulsa last week in the interest of the company.

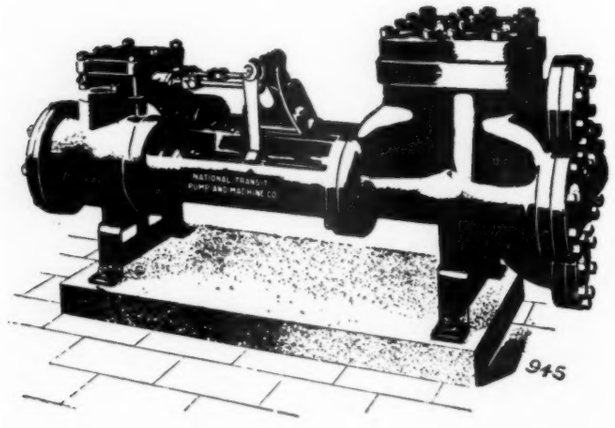
E. E. Carter, representative of the Macwhyte Wire Rope Company in Tulsa, is recuperating from an extended illness.

Fuhrman Petroleum Corporation has increased its office space in the Rust Building, San Angelo, and occupies rooms 508-10.

W. H. Hudnett has re-joined the organization of the Rycade Oil Corporation at Houston as a scout, having left the Pure Oil Company. He left the Rycade in the latter part of 1925, and was subsequently employed by the Humphreys Corporation and The Pure Oil Company.

TRY THIS ON YOUR OIL FIELDS

120 barrels per hour
650 lbs. working pressure



10 x 4½ x 10″ VALVE POT TYPE
TRANSIT PUMP

A big husky field pump for the big oil fields in the South and West. Of large capacity and rugged construction.

In many fields its working pressure of 650 lbs. enables it to pump direct from the field into the main line.

This super field pump is the choice of many of the largest operators in the West. Wherever there is a lot of oil in the field to handle quickly, there is no pump more satisfactory than these valve pot types.

Representatives
FRICK-REID SUPPLY CORPORATION
Tulsa, Okla., or any store
REPUBLIC SUPPLY COMPANY
of California
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NATIONAL TRANSIT
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Baltimore, Md.
REEVES & SKINNER MACHINERY CO.
St. Louis, Mo.

Say you saw it in The OIL WEEKLY

J. B. Johnson, purchasing agent for the Tidal Oil Company at Tulsa, and Mrs. Johnson, are vacationing at Colorado Springs.

E. H. Jensen, of Jensen Bros. Manufacturing Company, Tulsa, has returned from a business trip to Texas.

A. J. Edwards, of Black, Sivalls and Bryson, is enjoying a vacation trip in Corpus Christi with his family.

Bert Milam, assistant compressor station superintendent for the Cities Service Gas Company at Bartlesville, has been transferred to the company's Wichita, Kansas, office.

C. D. Fletcher, district paleontologist for the Arkansas, Louisiana Mississippi and Alabama area of the Gulf Refining Company, who headquarters at Shreveport, accompanied by B. W. Blanpied, geologist for the same firm permanently stationed in Mississippi, is in the southern portion of Mississippi on field work.

K. A. Garrison, with the scouting department of the Skelly Oil Company at Abilene, Texas, is vacationing in Tulsa.

Major B. A. Hardey, vice-president of the Dixie Gulf Gas Company, with headquarters formerly in Shreveport, Louisiana, has just been transferred to Houston, where he will be located in the future.

Clyde L. Webb has been appointed as Houston manager of the Texas Portland Cement Company, according to an announcement by H. Struckmann, president, and Lewis R. Ferguson, vice-president and general manager. The Texas Portland Cement Company is a subsidiary of the International Cement Corporation.

Layton Davis, formerly of Roxana Petroleum Corporation, is now with the Furhman Petroleum Corporation, taking the place of Chalmers Johnson, resigned.

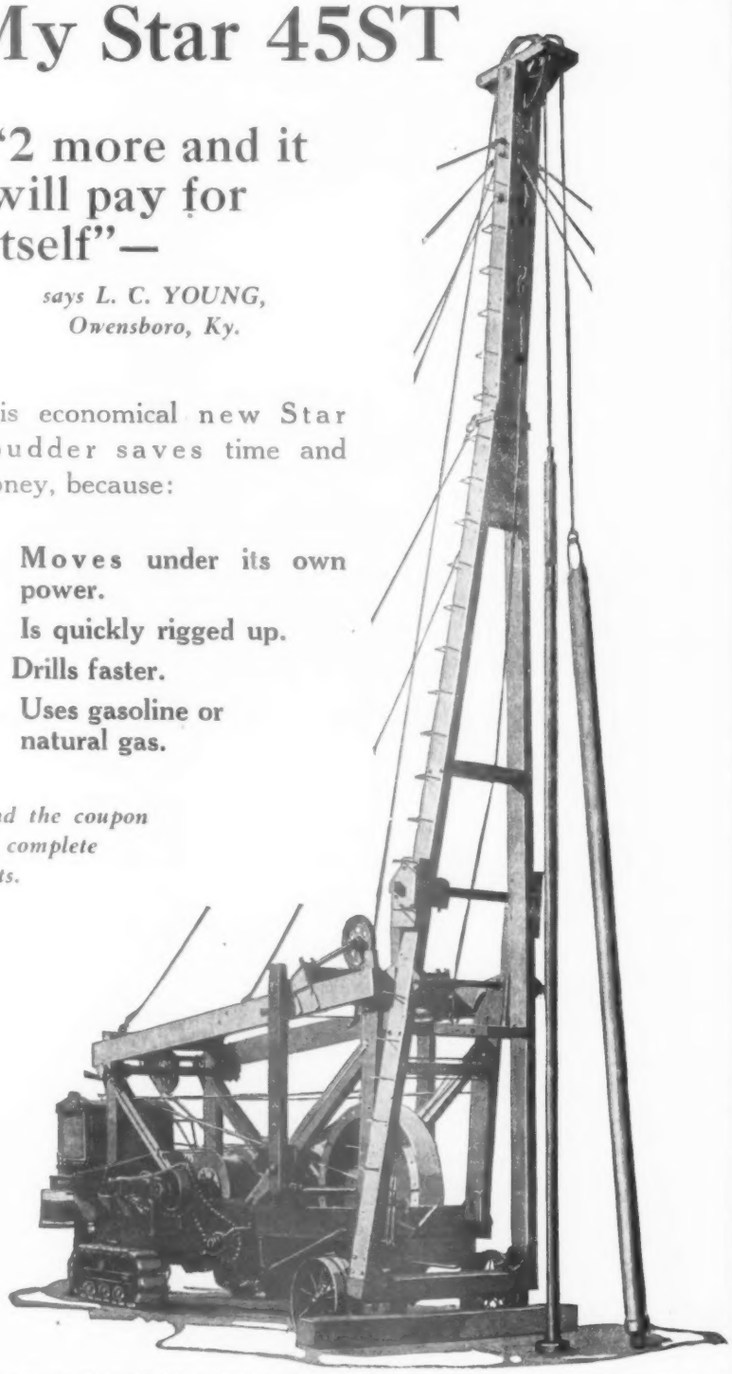
Announcement has been made by the Fort Worth office of the Pure Oil Company of the promotion of P. R. Smith to the position of manager of the Arkansas-Louisiana district. Mr. Smith was formerly the chief scout for Pure with headquarters in Fort Worth. He has been with the Pure Oil Company since 1920 at which time he went with the company in Pittsburgh, Pennsylvania. Since then he has worked in West Virginia, New Mexico and Texas. His new headquarters will be at El Dorado, Arkansas.

Paul R. Martin succeeds Mr. Smith as chief scout located in Fort Worth.

Drilled 6 Wells With My Star 45ST

"2 more and it will pay for itself"—

says L. C. YOUNG, Owensboro, Ky.



This economical new Star Spudder saves time and money, because:

1. **Moves under its own power.**
2. **Is quickly rigged up.**
3. **Drills faster.**
4. **Uses gasoline or natural gas.**

Send the coupon for complete facts.

STAR DRILLING MACHINE CO., Akron, Ohio.

Please send us complete information on the 45ST machine for drilling depth ..... feet.

Name .....

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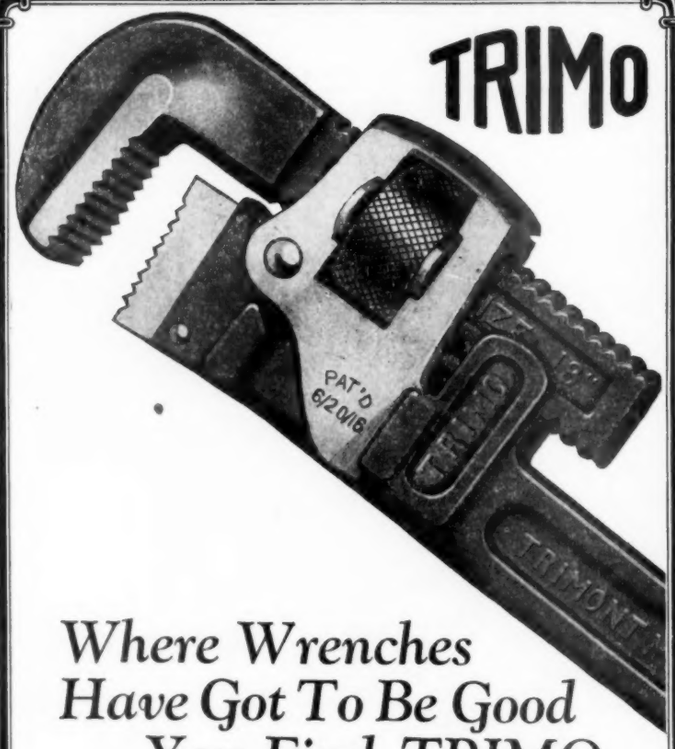
Oil Weekly, Sept. 14



Where Wrenches Have Got To Be Good . . . You Find TRIMO

A wrench has got to have plenty of strength to make the grade in the oil fields. That is why so many oil men insist on TRIMO.

The drop forged handle gives it strength that brings confidence to the user. This strength and extra long wear are built into every wrench this company turns out.

On sizes 14″, 18″, 24″, 36″ and 48″, extra strength is provided by the side lugs which overlap the frame.

When You Want A Pipe Wrench Buy A

TRIMO

TRIMONT MFG. CO., INC.
Roxbury (Boston), Mass.

Bids Opened on Teapot Dome Equipment

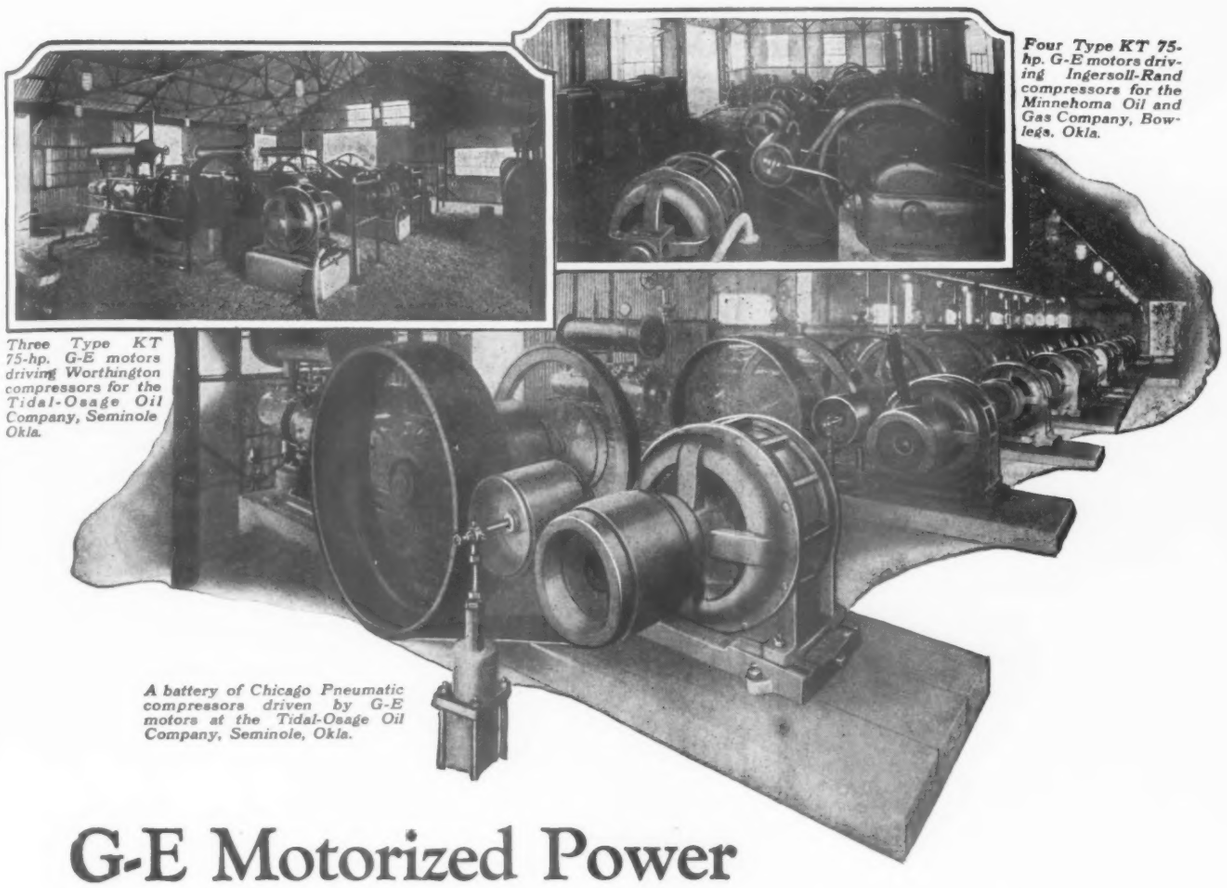
Casper, Wyoming—Perhaps the closing chapter of the Tea Pot Dome activities in Casper was written on September 5, when bids were opened by Lieutenant Commander C. A. Trexel, U. S. N., for a large amount of material secured by judgment from the Mammoth Oil Company in its operations on the Tea Pot Dome. The bids were forwarded to Washington for final disposition. They totaled $44,722.50. It is thought that the bid of $5200 for the Sinclair pump station which cost $300,000 will not be accepted. Before the bids were opened, it was thought that the property offered would bring at least $100,000. The 13,000 barrels of crude on the lease was sold to the White Eagle Oil & Refining Company for $1.36 per barrel.

All the wells on the Tea Pot Dome are now shut in and all the surplus material has been sold and most of it moved away. If ever the government should want to operate the lease again it would have to spend hundreds of thousands of dollars for material. However, there are many geologists and engineers who believe that if ever the wells are operated again or opened there will not be and need of new material for the oil will all have migrated to Salt Creek and will have been drained out through the wells in the field. U. S. Navy evidently thinks so also as it has asked Salt Creek operators having wells in the south end of Salt Creek and adjoining the Tea Pot Dome to pay the Navy a compensating royalty for increased production because of the shutting in of the wells on Tea Pot Dome.

Tanks for Oil From Pondera Field

Great Falls, Montana—Texas Pacific Coal & Oil Co. is erecting an 80,000-barrel steel storage tank at its pump station at Conrad north of here to take care of the flood of oil from the new Pondera field. The Texas Pacific is the only company with a pipe line from the field to railhead at Conrad. Field now is making close to 2000 barrels daily with about 20 wells under way. Canadian refinery at Coutts, Alberta, has contracted for all the production from the field with the exception of that controlled by the Ohio Oil Company and the California Petroleum Corporation (Texas) at $1.85 per barrel. This is 20c per barrel more than is being paid for Kevin-Sunburst crude.

Announcement was made recently by the Ranger office of the Prairie Oil and Gas Company that Oren E. Randolph has been appointed superintendent of the Central Texas division. Mr. Randolph succeeds J. Frank Champion who resigned a short time ago. Randolph has been in charge of Prairie's operations in the Seminole, Oklahoma, district for the past three years, and has been with the company 14 years. The Central Texas division includes all Texas with the exception of Panhandle.



Four Type KT 75-hp. G-E motors driving Ingersoll-Rand compressors for the Minnehoma Oil and Gas Company, Bowlegs, Okla.

Three Type KT 75-hp. G-E motors driving Worthington compressors for the Tidal-Osage Oil Company, Seminole Okla.

A battery of Chicago Pneumatic compressors driven by G-E motors at the Tidal-Osage Oil Company, Seminole, Okla.

G-E Motorized Power —ideal for air-gas lift

General Electric supplies complete electric equipment to the oil industry. With warehouse facilities close to your operations, G.E. readily furnishes motors, controllers, transformers, arresters and other protective devices, capacitors for power-factor improvement, switching equipment, etc.

G-E oil fieldspecialists at: Dallas, Denver, Houston, Kansas City, Oklahoma City, Tulsa, Los Angeles, San Francisco.

Smaller bulk and less weight make motors and control easier to install; and when one job is done, they are conveniently moved to another. At Seminole, the same G-E motors have been used on as many as five different leases.

Reliability is another of the advantages which make electric power ideally suited to air-gas lift work. Continuous production is assured—when shutdown means hundreds of barrels of oil irrecoverably lost.

G-E Motorized Power has demonstrated its worth in air-gas lift work. Its low first cost, low maintenance, and almost negligible depreciation give it marked advantages over other types of drive. Your nearest G-E office is always ready to supply complete information and other service.

Apply the proper G-E motor and the correct G-E controller to a specific task, following the recommendations of G-E specialists in electric drive, and you have G-E Motorized Power.

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GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN PRINCIPAL CITIES

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1927	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United States Total
January	598,500	117,200	466,400	173,900	52,900	131,550	107,850	84,450	653,450	2,386,200	73,972,150
February	693,350	116,250	479,800	154,600	52,800	128,200	107,150	85,300	642,700	2,460,150	68,884,300
March	710,350	116,100	475,000	154,750	51,450	124,500	104,400	87,600	640,850	2,465,000	76,414,900
April	723,700	115,400	477,300	155,100	50,500	113,350	108,000	89,350	644,550	2,477,250	74,317,750
May	742,200	114,600	488,700	151,300	47,450	112,700	114,000	89,300	633,550	2,493,800	77,307,700
June	768,600	112,200	480,800	151,650	49,150	112,450	111,850	86,050	638,550	2,511,300	75,338,900
July	846,750	107,750	475,800	142,950	56,200	109,900	111,800	86,950	620,700	2,558,800	79,322,300
August	832,900	105,100	483,450	139,350	56,950	104,750	114,600	80,750	621,450	2,539,300	78,717,850
September	797,450	105,200	493,750	142,900	53,450	101,350	110,800	74,500	637,250	2,516,650	75,498,900
October	782,300	105,100	497,900	138,400	51,300	100,450	113,600	73,250	629,000	2,491,300	77,230,000
November	766,900	106,650	501,750	138,100	49,400	97,850	114,900	75,050	623,850	2,474,450	74,233,500
December	720,700	106,150	531,650	138,500	47,200	94,950	111,250	77,150	624,600	2,452,150	76,017,050
1928											
January	675,450	108,300	523,300	125,450	45,250	90,050	109,600	77,000	617,100	2,371,500	73,516,500
February	664,450	110,550	538,750	115,800	45,300	88,250	104,850	75,550	614,750	2,358,250	68,388,850
March	646,850	112,250	575,850	119,900	44,400	85,600	102,150	78,700	617,450	2,383,150	73,877,650
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August 4	592,150	103,000	610,050	133,500	41,000	87,500	113,500	81,450	642,000	2,404,150	16,829,050
August 11	604,600	102,750	592,350	130,600	40,500	87,900	113,000	80,800	636,700	2,389,200	16,704,400
August 18	661,450	102,350	602,550	130,250	40,200	87,450	113,500	71,350	635,400	2,444,500	17,111,500
August 25	699,050	102,200	596,550	129,350	39,800	88,050	113,500	78,550	630,400	2,477,450	17,342,150
September 8	706,050	100,450	611,500	129,050	39,150	84,350	113,000	74,850	635,800	2,494,200	17,459,400
Increase	2,250	.....	.....	450	.....	.....	.....	.....	6,800	.....	.....
Decrease	.....	400	12,250	.....	550	2,150	.....	3,200	.....	9,050	63,350

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	Sept. 8	Sept. 1
Carson County	6,500	6,650
Gray County	22,550	21,600
Hitchinson County	34,500	33,750
Wheeler County	750	750
Others	1,100	800
Total	65,400	63,550

NORTH TEXAS

Archer County	19,850	20,050
Burkburnett	9,900	9,950
Electra	13,050	13,150
Iowa Park-KMA	3,950	3,900
Montague and Cooke Cos.	10,900	11,050
Wilbarger	33,000	36,350
Others	600	650
Total	91,250	95,100

WEST CENTRAL TEXAS

Brown County	12,050	12,000
Callahan County	3,600	3,600
Coleman County	3,500	3,500
Eastland-Desdemona	6,600	7,000
Jack County	1,650	1,700
Palo Pinto County	450	450
Shackelford County	10,850	10,750
Stephens County	7,050	7,050
Throckmorton County	950	950
Young County	8,000	8,100
Others	650	650
Total	55,350	55,750

WEST TEXAS

Crane-Upton Counties	58,600	60,450
Crockett County	2,850	3,250
Howard County	15,400	10,300
Jones County	3,200	1,950
Mitchell-Scurry Cos.	2,650	2,800
Pecos County	74,150	77,450
Reagan County	17,000	18,350
Winkler County	174,500	185,100
Others	1,450	1,600
Total	349,800	361,250

EAST CENTRAL TEXAS

Anderson-Cherokee Cos.	4,100	2,350
Corsicana-Powell	9,950	10,000
Currie	450	450
Mexia	6,600	6,650
Nigger Creek	950	950
Richland	550	550
Wortham	1,600	1,600
Total	24,200	22,550

SOUTHWEST TEXAS

Dale	1,250	1,200
Laredo District	8,550	8,600
Luling	13,600	13,650
Lytton Springs	1,000	1,000
Somerset	700	700
Others	400	400
Total	25,500	25,550
T'tl Tex. (ouside Gulf Coast)	611,500	623,750

TEXAS GULF COAST

Barbers Hill	600	600
Big Creek	3,000	3,200
Batson	1,400	1,400
Blue Ridge	9,300	9,350
Boling	1,800	1,950
Damon Mound	650	500
Goose Creek	6,650	6,650
Hull	10,550	10,550
Humble	1,350	1,350
Orange County	3,500	3,350
Pierce Junction	10,400	10,450
Saratoga	1,000	1,000
Sour Lake	3,250	3,350
South Liberty	3,400	3,650
Spindle Top	37,400	37,900
West Columbia	7,450	7,200
Others	5,400	2,800
Total	107,100	105,250
Texas Total	718,600	728,850

OKLAHOMA

North Braman	3,000	2,900
South Braman	1,550	1,500
Blackwell	3,400	3,400
Hubbard	2,800	2,800
Thomas	1,300	1,200
Tonkawa	12,700	12,600
Garber	8,200	8,100
Burbank	28,050	28,550
Osage (outside Burbank)	27,050	27,050
Cushing	19,850	19,850
Yale Jennings	7,400	7,400
Davenport	1,850	1,800
Bristow Slick	20,800	20,900
North Okmulgee	14,650	14,650
Lyons Deaner	5,750	5,550
Cromwell	9,150	9,300
Papoose	4,150	4,150
Wewoka	5,750	5,750
Seminole	48,100	55,600
Bowlegs	52,300	52,300
Searight	12,850	12,450
Little River	101,750	106,100
Earlsboro	93,700	94,050
Duncan District	7,800	700
Graham	5,300	5,300
Fox	1,650	1,650
Healdton	14,000	14,000
Hewitt	9,400	9,450
Scholem Alechem	15,000	15,100
Pearson	3,300	3,400
St. Louis	91,300	83,350
Allen	20,150	20,250
Others	52,050	52,650
Total	706,050	703,800

CALIFORNIA

Santa Fe Springs	38,000	38,000
Long Beach	197,500	194,000
Huntington Beach	53,500	53,500
Torrance	17,500	17,500
Dominguez	11,000	11,000
Rosecrans	5,500	6,000
Inglewood	29,000	29,500
Midway-Sunset	74,000	74,000
Ventura Avenue	52,000	48,000
Seal Beach	28,000	28,000
Others	129,800	129,500
Total	635,800	629,000

KANSAS

Greenwood County	26,750	27,100
Florence-Covert	1,000	1,000
Peabody-Ebling	3,150	3,200
Eldorado-Towanda	12,700	12,750
Augusta-Fox Bush	3,300	3,350
Rainbow Bend	1,600	1,600
Russell	3,900	3,800
Churchill	9,050	9,050
Oxford	9,900	9,700
Others	29,100	29,300
Total	100,450	100,850

NORTH LOUISIANA

	Sept. 8	Sept. 1
Homer	4,300	4,300
Haynesville	5,800	5,900
Caddo Light	9,200	9,400
Caddo Heavy	3,100	2,950
DeSoto-Red River	4,000	3,950
Elm Grove	550	550
Bellevue	800	750
Cotton Valley Light	700	750
Cotton Valley Heavy	3,650	3,700
Urania	6,500	6,900
Pleasant Hill	550	550
Totals North Louisiana	39,150	39,700

LOUISIANA GULF COAST

Bayou Boullion	650	500
East Hackberry	3,050	3,700
Edgerly	1,000	1,000
Evangeline	1,050	1,100
Lockport	3,700	3,800
Sorrento	1,000	1,200
Sulphur Dome	2,600	3,200
Sweet Lake	3,900	3,800
Vinton	4,300	4,350
Others	700	700
Total Louisiana Gulf Coast	21,950	23,350
Louisiana Total	....	63,050

ARKANSAS

El Dorado	5,200	5,250
Champagnolle	11,150	13,200
Smackover Light	7,400	7,300
Smackover Heavy	56,350	56,450
Stephens	1,000	1,000
Nevada	1,200	1,250
Lisbon	1,950	1,950
Others	100	100
Total	84,350	86,500

MOUNTAIN STATES

WYOMING

Salt Creek	34,850	38,500
Grass Creek	2,450	2,400
Elk Basin	950	950
Big Muddy	2,600	2,600
Lost Soldier	4,100	4,050
Rock River	2,650	2,750
Lance Creek	550	500
Others	7,600	5,450
Total	55,750	57,200

MONTANA

Cat Creek	1,600	1,650
Sunburst	8,000	8,000
Others	150	200
Total	9,750	9,850

COLORADO

Moffats (Craig)	1,200	1,400
Fort Collins	2,450	2,600
Florence	1,000	1,050
Others	2,400	2,350
Total	7,050	7,400

NEW MEXICO

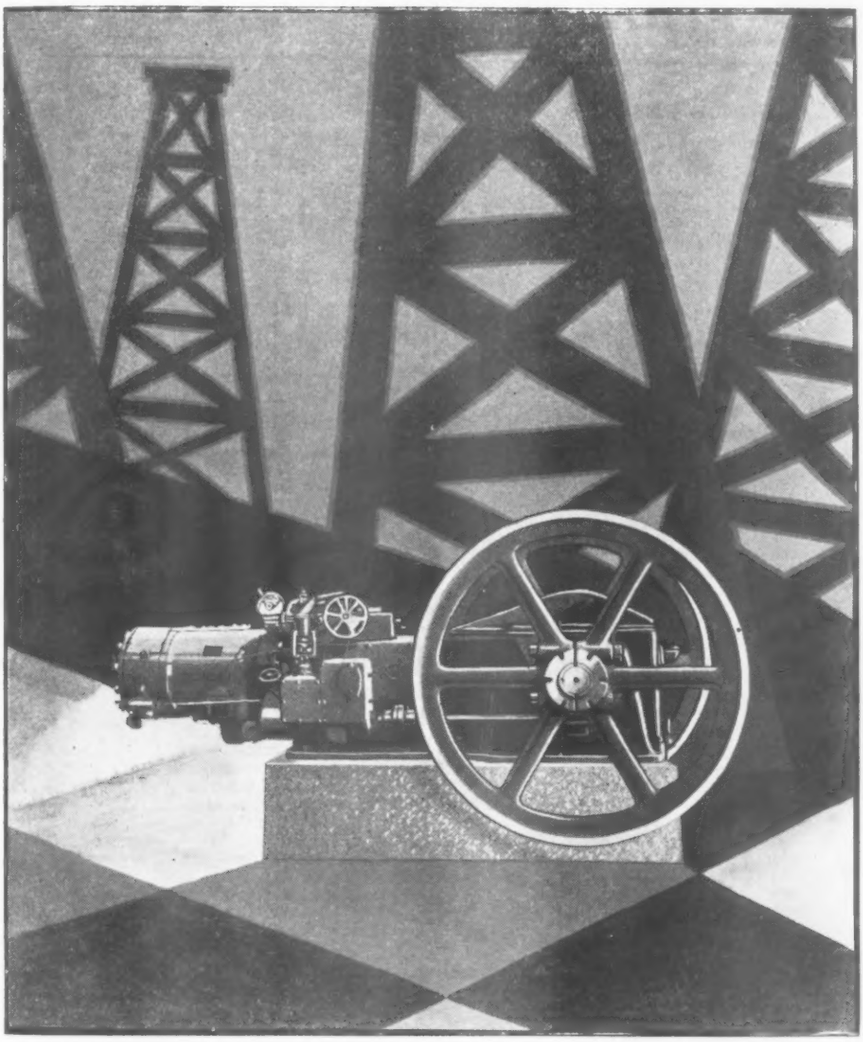
Table Mesa	100	1,000
Artesia	1,000	500
Hogback	500	1,900
Rattlesnake	500	200
Others	200	...
Totals	2,300	3,600
Totals Mountain States	74,850	78,050

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	113,000	113,000

PRODUCTION SUMMARY

East of Rockies	1,783,550	1,796,200
United States Total	2,494,200	2,503,250



IT IS axiomatic that REID leads the world in the production of fine engines for the Oil Field. We illustrate here the Reid Type C Enclosed Two Cycle Gas Engine, with many outstanding features. It is a wonderful piece of equipment, years ahead after the manner established by Reid. Bulletin 37 tells the whole story. Ask for it at your Frick-Reid Store or address our Tulsa office.

Reid Gas Engines

Frick-Reid Supply Corporation

Tulsa, Okla. Pittsburgh, Pa.

STORES EVERYWHERE

Axelson Machine Co.
Sucker Rods, Pull Rods, Plunger Working Barrels (Pumps)etc.

Beaumont Iron Works Company
Dreadnaught Rotary Equipment Water-Cooled Drawworks, Pumping Hoists, Traveling Blocks, etc.

Donovan Boiler Works
Oil Country Boilers and Tanks

Frick-Reid Service Belting
Rubber Covered and Friction Surface.

National Transit Pump and Machine Co.
Power and Steam Pumps.

J. P. Ratigan
Grips, Clamps, Beam Hangers.

Joseph Reid Gas Engine Company
Gas and Oil Engines, two and four-cycle, Band Wheel and Direct Drive Pumping Powers.

Whitlock Cordage Co.
Manila Cordage, including Frick-Reid Manila Bull Ropes—same quality for ten years.

Jones & Laughlin Steel Corp.
Seamless and Lapweld Tubular Goods.

Walworth Company
Valves, Fittings and Tools for Steam, Water, Gas, Oil and Air.

Rossendale-Reddaway Company
"Camel Hair" Beltings, Belt Clamps.

Engineering Crews
for the installation of Pumping Powers and related equipment.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	10	17	..	5	..	3	10	9	...	1,527
California	38	..	34	..	..	..	4	..	31,645	...
Illinois	6	..	2	..	..	..	4	..	75	...
Indiana	8	2	1	..	..	..	7	2	5	...
Kansas	18	12	8	7	1	1	9	4	1,195	2,288
Kentucky	42	31	31	21	1	..	10	10	771	1,221
Louisiana	17	11	4	4	3	..	10	7	250	3,915
Michigan	3	2	..	2	3	..	..	..	...	75
New York	..	21	..	20	..	..	..	1	...	46
Ohio	49	47	22	20	19	13	8	14	1,012	956
Oklahoma	102	71	61	47	7	4	34	20	97,003	79,056
Pennsylvania	1	77	..	71	1	5	..	1	...	219
Texas	127	110	77	60	3	10	47	40	171,401	151,724
West Virginia	15	36	4	9	9	25	2	2	21	46
Total	436	437	244	266	47	61	145	110	303,378	241,073
Increase this week	..	..	..	..	..	..	35	..	62,305	...
Decrease this week	1	..	22	..	14	..	..	..	...	...

EASTERN STATES

PENNSYLVANIA

Company, Well and Location—	Initial Production Bbls.	Depth
GREENE COUNTY—		
Manufacturers Light & Heat Co., Phillips 1	¶1¼	....

WEST VIRGINIA

Company, Well and Location—	Initial Production Bbls.	Depth
BOONE COUNTY—		
United Fuel Gas Co., Gillespie 1, ..	¶¼	....
Pond Fork O. & G. Co., Cole-Crane 5	¶1	....
Owens Bottle Machine Co., Ben Pauley 1	¶1¼	....
McKinney 1	¶1½	....
RITCHIE COUNTY—		
South Penn Oil Co., Moyers 1	¶¼	....
Aetna O. & G. Co., Moore 1	¶½	....
Batchelor, Coughill & Co., Pierpoint 1	*	....
ROANE COUNTY—		
United Fuel Gas Co., Linkenogger 1	¶1½	....
South Penn Oil Co., Stockley 75..	10	....
PLEASANTS COUNTY—		
Delong Farm Oil Co., Delong 5 ..	5	....
C. C. Pickens & Co., Smith 2	*	....
GILMER COUNTY—		
Gainer O. & G. Co., Gainer 3	4	....
WOOD COUNTY—		
Ira Connelly & Co., Connelly 2	2	....
CALHOUN COUNTY—		
Goff O. & G. Co. Smith 2	¶1	....
MARION COUNTY—		
Owens Bottle Machine Co., Robinson 1	¶1¼	....

KENTUCKY

Company, Well and Location—	Initial Production Bbls.	Depth
ALLEN COUNTY—		
Russell Oil Co., Burton Hrs. 15 ..	*	500
METCALF COUNTY—		
Beaver Creek O. & G. Co., Ennis 1	¶1	457
BRECKENRIDGE COUNTY—		
Ford, Buckner & Co., Wilhite 1	15	....
WAYNE COUNTY—		
J. C. Blair & Co., Gregory 7	2	....
POWELL COUNTY—		
Hillside Dev. Co., Wireman 7	3	....
JOHNSON-MAGOFFIN COUNTIES—		
Hupp, Duff & Co., Scott 1	5	....
Boston-Southwestern Oil & Gas Co., Davis 13	5	....
HANCOCK COUNTY—		
Vickers & Jones, Parrott 2	15	....
Randolph, Rowe & Co., Longest 1..	*	....
ESTILL COUNTY—		
Snowden Hrs., Snowden 1	*	....
Mt. Springs Oil Co., Rogers 6....	3	....
Superior Oil Corp., Horn 32	2	....
Tyree 21	3	....
West & Co., 16	2	....
DAVIESS COUNTY—		
Jesse Watts & Co., Howard 1	50	659
Mears, Carrigan & Co., Rhodes Hrs. 1	30	549
R. D. Hance & Co., Clark 1	*	....
BARREN COUNTY—		
Ogle & Co., Ellis 1	10	346
Carver 1	*	526
Hunt & Leach, Wells 1	*	525
Esslinger Oil Co., Morton 8	40	....
Wood Oil Co., Clark 1	5	671

Company, Well and Location—	Initial Production Bbls.	Depth
OHIO COUNTY—		
James C. Ellis & Co., Gossett 3	100	....
Keith 5	40	....
Keith 6	40	....
Weller 29	70	....
Ohio Oil Co., Ellis 15	55	....
Taylor 12	30	....
Payne 1	*	....
Cumberland Pet. Co., Hamilton 13..	75	....
Bigler & Becker, Hendricks 1	30	481
J. D. White & Co., Wade 1	15	....
C. Claypool & Co., Ralph 4	30	....
Wood Oil Co., Mitchell 3	10	400
E. C. Arnold, Trustee, Coopage 2..	5	....
Porter Evans & Co., Powers 2	8	391
Bales, Cecil & Co., Duke 1	*	....
Dearborn Oil Co., Reardon 5	30	....
Miller & Damron, Ford 4	23	....
Rex-Pyramid Oil Co., Stinnett 4 ..	20	....
Porter Evans & Co., Norris 1	*	....
Sunnydale O. & G. Co., Gray 1 ..	*	750

SOUTHEASTERN OHIO

Company, Well and Location—	Initial Production Bbls.	Depth
MORGAN COUNTY—		
Kemrow O. & G. Co., Huffman 4..	¶½	1540
Ellis 5	¶½	1473
Sutton Bros., Williams 11	¶½	1472
Turney Oil Co., Changwill 17	4	382
Bauman & Co., Shuster 3	¶1½	1520
McBride & Co., Taylor 2	¶½	1420
Holoway & Co., Glass 5	¶¼	1532
WASHINGTON COUNTY—		
Wingetts Run O. & G. Co., Ridgeway 2	*	....
C. W. Schramm & Co., Ward 6 ..	*	....
High Pressure O. & G. Co., Miller 4	*	1890
Hendershot & Co., Masters 1	*	1540
J. C. Corner, Parks 3	¶¼	1718
NOBLE COUNTY—		
Stoffle Oil Co., Stoffle 3	10	....
Stoffle 4	4	1381
L. B. Mowery & Co., McVey 4	15	....
MONROE COUNTY—		
Van Buren Oil Co., Potts 1	¶¼	1859
BELMONT COUNTY—		
C. D. Crouch & Co., Hardesty 4 ..	2	1818

CENTRAL OHIO

Company, Well and Location—	Initial Production Bbls.	Depth
PERRY COUNTY—		
Henry Scholl & Co., Brown 2	240	....
Kline & Co., Sowers 3	170	3631
Sowers 4	230	3584
Crowley & Co., Teal 1	60	3546
Pure Oil Co., Baker 1	50	....
Hilliard & Stearns, Baker-Folk 4 ..	10	2660
Wiser Oil Co., Deaver 3	¶¼	1058
Pure Oil Co., Moore 3	3	3490
Ohio Fuel Gas Co., Wilson 1	¶1¼	3568
Bunker Hill Oil & Gas Co., Penman-Bennett 1	¶¼	3778
Wehrle Oil & Gas Co., Talbot & Co. 1	*	3547
MEIGS COUNTY—		
Tyree & Co., Carnahan 2	6	550
W. Carnahan 4	12	600
Ohio Fuel Gas Co., Carl 1	*	1564
LICKING COUNTY—		
R. & J. Drilling Co., Hupp 2	*	....
Farmer & Rugg, Wright 6	5	....

Company, Well and Location—	Initial Production Bbls.	Depth
FAIRFIELD COUNTY—		
Hope Construction & Ref. Co., Brown 1	72	2670
City Gas Co., Engle 3	¶¼	2345
HOCKING COUNTY—		
Griffin Producing Co., Linton 7	65	3025
Tucker O. & G. Co., Lemon 2	15	2034
Preston Oil Co., Sunday Creek Coal 46	*	3619
ATHENS COUNTY—		
Frank Selby, Selby 13	¶3¼	1603
Ohio Fuel Gas Co. Gifford 1	¶½	1366
Mosure & Fox, Dean 3	¶½	1488
GUERNSEY COUNTY—		
Ohio Fuel Gas Co., Watson 1	*	1397
Howell 1	¶½	3160
KNOX COUNTY—		
Ohio Fuel Gas Co., White 1	¶1	2797
JACKSON COUNTY—		
Ohio Fuel Gas Co., Blume 1	¶¼	2649
LAWRENCE COUNTY—		
Inland O. & G. Co., Hecla Iron Co. 2	¶2	448
MEIGS COUNTY—		
Davis Oil Co., Hysell 4	5	....
H. R. Hazlet & Co., Hallman 2	3	....

NORTHWESTERN OHIO

Company, Well and Location—	Initial Production Bbls.	Depth
ALLEN COUNTY—		
H. F. Kelly & Co., Miller 5	25	....
WOOD COUNTY—		
Lantz, Schulte & Co., Schulte 2....	10	....

INDIANA

Company, Well and Location—	Initial Production Bbls.	Depth
GIBSON COUNTY—		
Enlow & Co., Enlow 1	*	2200
Young & Co., Hollingsworth 5	*	....
Ohio Oil Co., Edwards 5	5	1365
Bell & Co., Dillon 1	*	1590
JAY COUNTY—		
R. & M. Oil Co., Brown 2	*	....
A. M. Jones, Gimmell 1	*	....
GRANT COUNTY—		
E. Hayes & Co., Gardner 1	*	....
SULLIVAN COUNTY—		
H. S. Millican & Co., Corbin 1	*	....

ILLINOIS

Company, Well and Location—	Initial Production Bbls.	Depth
WABASH COUNTY—		
Adams Corner Oil Co., Madden 11	25	1365
G. W. Miller & Co., Price 2	*	2100
CRAWFORD COUNTY—		
Phipps, Cawood & Co., Tohill 14...	50	983
LAWRENCE COUNTY—		
Lee Hopkins & Co., DesBeouf 1...	*	1990
MADISON COUNTY—		
Goodrich & Co., Goodrich 1	*	....
ST. CLAIR COUNTY—		..
Mason & Co., Unknown 1	*	....

MICHIGAN

Company, Well and Location—	Initial Production Bbls.	Depth
MUSKEGON COUNTY—		
Wa-je-sel Oil Co., Reeths 1	¶5-300	2050
Lake Shore Pet. Co., Heinz 1	¶5	2045
Joliet-Morris Dev. Co., Ehlers 2 ..	¶2-100	2048

CALIFORNIA

Company, Well and Location—	Initial Production Bbls.	Depth
BELLRIDGE—		
Berry Oil Co., No. 88	55	690
BREA-OLINDA—		
Shell Co., Orange 17	2100	5243
CAT CANYON—		
Stoddard Syndicate, No. 1, 30-9-32..	350	3510
EAST COYOTE—		
Holly Dev. Co., Lehmer 1	*	2985
HUNTINGTON BEACH—		
Standard Oil Co., P. E., 16	1440	4323
F. E. Bundy, M. C. G. 1	100	2175
George F. & J. Paul Getty, No. 27..	1500	7475
Richfield Oil Co., Warren-Macrate 1	600	6545
Richfield Oil Co., Hoover 2	200	6017
Shell Co., Coseboom 8	750	7132
Universal Consolidated Oil Co., Judson 2	200	6210
Warren & Macrate, Neet 2	1500	5951
Rio Grande Oil Co., Municipal B-10.	5500	6178
Rayanna Oil Co., Marine 19	100	....
Rainbow Pet. Corp., Dutcher 1	300	7300
Shell Co., Babb-Tucker 4	2400	7366
Richfield Oil Co., Chaney 3	3200	6424
California Eastern Oil Co., Marine 18	1900	6984
Marine 15	100	6416
Marine 62	500	7348

(Continued on page 78)

The LARKIN *Improved* SAND PUMP

the best pump for any job—no matter how tough

THE outstanding advantage of the Larkin Improved Sand Pump is its flexibility—in that it operates successfully at all depths, under all conditions. Under normal conditions it will bring out the sand and sediment in record time—equipped with the Regular Bottom.

But—for that tough job where the cavings have packed hard—there is the Bit Bottom. As its name implies, it is used for drilling and breaking the sand loose. It will break up the hard formations so efficiently, and pass the material through to the pump so quickly, that the pump may be operated at full capacity without being delayed to any extent—even by the worst conditions encountered. To be prepared for any job, no matter how difficult, get the Larkin and have it equipped with both the Regular Bottom and Bit Bottom to give better than ordinary cleaning-out service.

This Leader of the Larkin Line will clean out your wells quickly, thoroughly; it will last through years of hard service. Even more than when the Eastern fields were young, it is the most efficient sand pump on the market.

Sold by leading Supply Stores.
Send for Circular and Price List.

Made only by

LARKIN & CO.

at BUTLER, PENNA.

These extra fine bottoms give the LARKIN pumps real advantages

Regular Bottom

In the Larkin Regular Bottom, the legs are short, allowing the pump to rest as near the bottom of the hole as possible and still obtain the necessay suction to remove the greatest amount of sand and sediment quickly.

Bit Bottom

This Bottom is used for drilling and breaking the sand loose. Its chisel shaped design is unique, prevents sticking, and allows successful operation in tightly packed sands.

CRUDE OIL PRICE QUOTATIONS

CURRENT POSTINGS
EASTERN STATES

	Sept. 11 1928
Penna Grade Oil in New York Transit Lines (New York)	$3.20
Bradford District Oil in National Transit Lines (Pennsylvania)	3.20
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.10
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.10
Penna Grade Oil in Eureko Pipe Line Lines (Pennsylvania)	3.00
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.85
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (July 13)	1.45
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines (August 8)	1.70
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines (Aug. 8)	1.80
Somerset Oil in Cumberland Pipe Line lines (Kentucky) (July 30)	1.70
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (August 1)	.95
Keister (Pennsylvania)	1.20

CENTRAL STATES

Illinois	1.55
Indiana	1.37
Lima	1.60
Plymouth	1.28
Princeton	1.55
Waterloo	1.35
Wooster	1.67

WESTERN KENTUCKY

Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren.

All grades	1.55

MID-CONTINENT

Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company.*

25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 and above	1.76

*The Texas Company posts a price of 60 cents on 24 to 24.9 gravity, and Gulf's posting begins at 28 to 28.9.

MID-CONTINENT
Magnolia Petroleum Company

Below 25 gravity	.60
25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 29.9 gravity	.75
30 to 30.9 gravity	.90
31 to 31.9 gravity	1.05
32 to 32.9 gravity	1.16

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

NORTH AND CENTRAL TEXAS
Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude
(Humble Oil and Refining Company)*

25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 and above	1.76

SOUTH TEXAS

Mirando	1.00

SOMERSET
Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

GULF COAST

Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.17
26 to 26.9 gravity	1.19
27 to 27.9 gravity	1.21
28 to 28.9 gravity	1.23
29 to 29.9 gravity	1.25
30 to 30.9 gravity	1.27
31 to 31.9 gravity	1.29
32 to 32.9 gravity	1.31
33 to 33.9 gravity	1.33
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.37
36 to 36.9 gravity	1.39
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.43
39 to 39.9 gravity	1.45
40 and above	1.47

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

The Texas Company
MARKHAM

All grades	1.00

LULING

All grades	1.00

PANHANDLE
GRAY COUNTY
(Humble Oil and Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company and Sinclair Pipe Line Company).

Below 29 gravity	.68
29 to 29.9 gravity	.75
30 to 30.9 gravity	.82
31 to 31.9 gravity	.89
32 to 32.9 gravity	.96
33 to 33.9 gravity	1.01
34 to 34.9 gravity	1.06
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.16
37 to 37.9 gravity	1.21
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.31
40 to 40.9 gravity	1.36

CALIFORNIA CRUDE OIL PRICES AT THE WELL

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated.)

Gravity	Signal Hill	Alamitos Hts Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler
14-14.9	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ ...	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
16-16.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
17-17.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
18-18.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
19-19.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
20-20.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.86	.85	..	..	.77	.77	.77	.77	.77
21-21.9	.89	.89	.89	.89	.89	..	.89	.89	.88	.89	.88	.89	..	.79	.79	.79	.79	.79
22-22.9	.93	.93	.93	.93	.93	..	.93	.93	.91	.92	.91	.92	..	.82	.82	.82	.82	.82
23-23.9	.97	.97	.97	.97	.97	..	.97	.97	..	.95	.94	.95	..	.86	.86	.86	.85	.85
24-24.9	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25.9	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26.9	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27.9	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29.9	1.21	1.21	1.21	..	1.21	1.21	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30.9	1.25	1.25	1.25	..	1.25	1.25	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31.9	1.30	1.30	1.30	..	..	1.30	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32.9	1.35	1.35	1.35	..	..	1.35	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
33-33.9	..	..	..	..	..	1.41	..	..	..	..	..	1.35	..	1.40	1.40	1.40	1.22	..
34-34.9	..	..	..	..	..	1.47	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35.9	..	..	..	..	..	1.53	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36.9	..	..	..	..	..	1.59	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37.9	..	..	..	..	..	1.65	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38.9	..	..	..	..	..	1.71	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39.9	..	..	..	..	..	1.77	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40.9	..	..	..	..	..	1.83	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	..	1.89	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	..	1.95	..	..	..	..	..	..	..	..	..	..	..	..

THIS *is the answer to* "Cut Oil"

A Petreco Electrical Dehydrator — the answer to "cut oil."

"Petreco" electrical dehydration is the one sound, practical, *profitable* way to handle "wet" crude production. It turns "cut oil" and emulsions of high water content into clean oil conforming in every respect to pipeline requirements. "Petreco" dehydration is clean, automatic, and practically 100% perfect. Costs, including current, overhead, etc., seldom run more than a few cents per barrel of clean oil recovered. If the emulsion content of your production runs above normal it will pay you to investigate "Petreco". The facts and figures are all contained in our profusely illustrated booklet "The Electrical Process for the Dehydration of Crude Oil Emulsions." Ask for your copy today.

PETROLEUM RECTIFYING COMPANY of CALIFORNIA

Security Title Insurance Bldg. 530 W. 6th St. Los Angeles, Calif.

Petroleum Bldg., Houston, Texas

PETRECO

ELECTRICAL DEHYDRATION

Say you saw it in The OIL WEEKLY

	Sept. 11 1928
41 to 41.9 gravity	1.41
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.51
44 and above	1.56

WHEELER COUNTY
(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.65
30 to 30.9 gravity	.72
31 to 31.9 gravity	.79
32 to 32.9 gravity	.86
33 to 33.9 gravity	.91
34 to 34.9 gravity	.96
35 to 35.9 gravity	1.01
36 to 36.9 gravity	1.06
37 to 37.9 gravity	1.11
38 to 38.9 gravity	1.16
39 to 39.9 gravity	1.21
40 to 40.9 gravity	1.26
41 to 41.9 gravity	1.31
42 to 42.9 gravity	1.36
43 to 43.9 gravity	1.41
44 and above	1.46

CARSON-HUTCHINSON COUNTIES
(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.69
32 to 32.9 gravity	.76
33 to 33.9 gravity	.81
34 to 34.9 gravity	.86
35 to 35.9 gravity	.91
36 to 36.9 gravity	.96
37 to 37.9 gravity	1.01
38 to 38.9 gravity	1.06
39 to 39.9 gravity	1.11
40 to 40.9 gravity	1.16
41 to 41.9 gravity	1.21
42 to 42.9 gravity	1.26
43 to 43.9 gravity	1.31
44 and above	1.36

WEST TEXAS
(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Pecos and Winkler Counties, all grades	.65

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties and that part of Glasscock not included in the Chalk field. The Marland Company posts only in Crane, Upton and Crockett Counties; Southern posts only in Crane, Upton and Winkler Counties.

(Magnolia Petroleum Company)

Mitchell County	$ .80
Howard-Glasscock County (shallow)	.80
Howard-Glasscock County (deep)	.65

Col-Tex Refining Company

Howard and Mitchell Counties	$ .80

WYOMING-MONTANA
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.48
Grass Creek	1.48
Rock Creek	1.33
Lost Soldier	.95
Lance Creek	1.48
Mule Creek	1.10
Notches	.65
Big Muddy	1.33
Osage	1.33
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.33
Lander	.80
Simpson Ridge	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 and above	1.30

MONTANA

Sunburst	$1.65
Cat Creek	1.33
Lake Basin	2.20

NEW MEXICO

	Sept. 11 1928
Artesia	1.08
Hogback	1.38

CANADA

Oil Springs	2.07
Petrolia	2.00

NORTH LOUISIANA
(The Texas Company)

24 to 24.9 gravity	.76
25 to 25.9 gravity	.81
26 to 26.9 gravity	.86
27 to 27.9 gravity	.91
28 to 28.9 gravity	.96
29 to 29.9 gravity	1.01
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.11
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.19
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.31
38 to 38.9 gravity	1.34
39 to 39.9 gravity	1.37
40 to 40.9 gravity	1.40
41 to 41.9 gravity	1.43
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.49
44 to 44.9 gravity	1.52
45 to 45.9 gravity	1.55
46 to 46.9 gravity	1.58
47 to 47.9 gravity	1.61
48 to 48.9 gravity	1.64
49 to 49.9 gravity	1.67
50 to 50.9 gravity	1.70
51 to 51.9 gravity	1.73
52 and above	1.76

LOUISIANA-ARKANSAS
Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley**
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and The Texas Company).

	Sept. 11 1928
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 gravity and above	1.76

*Shreveport-Eldorado's postings stop at above 40 gravity.

**Below 36 gravity, the posting on Cotton Valley is 75 cents. From 36 to 52 and above the regular gravity schedule is followed.

STEPHENS
(All Companies)

Below 28 gravity	.75
28 to 28.9 gravity	.79
29 to 29.9 gravity	.83
30 to 30.9 gravity	.87
31 to 31.9 gravity	.91
32 gravity and above	.95

SMACKOVER
(All Companies)

Below 24 gravity	.75
24 and above	.90
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.85
Calion	.75

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

American Petroleum Institute Figures (Barrels of 42 gallons)

	Week Ended Sept. 1	Week Ended Aug. 25
AT ATLANTIC COAST PORTS—		
Baltimore	226,000	168,000
Boston	146,000	145,000
New York	836,000	761,000
Philadelphia	151,000	*75,000
Others	.....	70,000
Total	1,359,000	1,219,000
Daily Average	194,143	174,143
AT GULF COAST PORTS—		
Galveston District	.....	.....
New Orleans and Baton Rouge	141,000	275,000
Port Arthur and Sabine District	.....	.....
Tampa	.....	19,000
Total	141,000	294,000
Daily Average	20,143	42,000
AT ALL UNITED STATES PORTS—		
Total	1,500,000	1,513,000
Daily Average	214,286	216,143
Daily Average Four Weeks Ended	220,750	241,179

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

American Petroleum Institute Figures (Barrels of 42 Gallons)

	Week Ended Sept. 1	Week Ended Aug. 25
AT ATLANTIC COAST PORTS—		
Baltimore	68,000	177,000
Boston	.....	.....
New York	76,000	165,000
Philadelphia	.....	*158,000
Others	.....	75,000
Total	144,000	575,000
Daily Average	20,571	82,143
AT GULF COAST PORTS—		
Daily Average	.....	.....
TOTAL—ATLANTIC AND GULF COAST PORTS	144,000	575,000
Daily Average	20,571	82,143
Daily Average Four Weeks Ended	65,500	82,179
Distribution of Total California Oil Receipts is as follows:		
Gasoline	144,000	435,000
Gas Oil	.....	140,000
Total	144,000	575,000

*Revised.

The Advantages of Pittsburgh Seamless Line Pipe Include:

1. **Longer lengths (up to 45 feet).**
2. **Various Carbon Content (.10 to .20; .30 to .40; .40 to .50).**
3. **Thorough, minute inspection.**
4. **Fewer joints---lower installation cost.**
5. **Economy in maintenance of line.**
6. **Finest open hearth steel---less corrosion.**
7. **No welded seams---uniform strength.**

Pittsburgh Seamless Steel Pipe and Tubing are made in all sizes up to 13⅜" O. D., including pipe sizes, and in extra long lengths. The advantages in strength, safety, economy and durability give them a wide range of usefulness in the production, transportation and refining of petroleum and for gas and steam lines.

Pittsburgh Steel Products Co.
DIVISION OF
Pittsburgh Steel Co.

PITTSBURGH · NEW YORK · DETROIT CHICAGO · HOUSTON · TULSA

Say you saw it in The OIL WEEKLY

(Continued from page 72)

Company, Well and Location—	Initial Production Bbls.	Depth
Warren & Macrate No. 4	400	6458
Chicksan Oil Co., Clark 4	1700	5964
Jergins Municipal Trust, No. 22	1850	7520
Edward Mattox No. 1	300	6314
McKeon Drilling Co., Knight 1	200	5795
Rio Grande Oil Co., Municipal B-6	100	6138
Municipal B-9	800	6345
Savage 1	150	6345
Shell Co., Hamilton 3	50	7080
Signal Syndicate, No. 4	50	6200
McKITTRICK—		
Ohio Oil Co., Morris 1, 8-30-22	*	4007
MT. POSO—		
Berry Holding Co., No. 1, 21-27-28	*	1480
Bruce Frame, No. 1, 6-26-28	*	2415
RICHFIELD—		
George W. Johnson, Davenport 1	200	3830
RINCON—		
Richfield Oil Co., Hobson-Fee 6	400	3230
ROSECRANS—		
Barnsdall Oil Co., Rosecrans 3	300	5255
SUNSET—		
Union Oil Co., International 3, 4-11-23	600	2810
VENTURA—		
Petroleum Securities Co., Orton 8	1850	5600

KANSAS

BUTLER COUNTY—		
Garden et al Sluss 1B, se ne nw, 6-27-6e	250	2743
Mohawk Oil Co. Palmer 2, cwl se ne, 6-27-6e	600	2744
Dixie Oil Co. Marshall 3, se nw nw, 10-27-6e	20	3135
COWLEY COUNTY—		
Barnsdall Oil Corp. Clabough 1, nec, 19-31-5e	¶1	495
CHAUTAUQUA COUNTY—		
Page Oil Co. et al Linningtin 1, cwl sw sw, 34-32-10e	20	1601
ELK COUNTY—		
Blaudell Drlg. Co. Retchig 3, c ne ne, 29-31-10e	15	1495
Denman Bros. Clough 1, c sw ne, 25-31-10e	6	2060
GREENWOOD COUNTY—		
Amerada Pet. Corp Luthi 2, nwc sw, 29-22-13e	250	1695
MARION COUNTY—		
Givens & Hershey Faulk 1, se sw ne, 14-7-4e	15	2417
Sinclair O. & G. Co. Bevans 2, se ne se, 21-17-4e	*	2410
Phillips Pet. Co. Wells 2, se ne nw, 22-17-4e	*	2710
Wells 3, sw se nw, 22-17-4e	*	2485
Reznicek 4, ne nw sw, 22-17-4e	*	2510
Ramsey et al Bolby 2, nw ne nw, 22-17-4e	*	....
Sinclair O. & G. Co. Haynes 1, sec nw, 26-17-4e	25	2375
MORRIS COUNTY—		
Thad O'Day Scott 1, nec sw, 6-16-6e	*	....
Skelton et al Illes 1, 25-16-5e	*	....
Faulders et al Wendt 1, sw se se, 18-15-5e	*	....

OKLAHOMA

CARTER COUNTY—		
Magnolia Pet. Co., Gill 1, nw sw ne, 23-1s-3w	35	2492
Gill 2, swc ne, 23-1s-3w	232	2471
Miller 1, swc, 28-1s-3w	25	3624
Roxana Pet. Corp. Eason 1, nw sw nw, 6-2s-3w	*	3685
CREEK COUNTY—		
Sinclair O. & G. Co., Long 12, csl sw sw, 9-18-7e	3	2570
Roxana Pet. Corp., Sewell 7, sw ne ne, 18-19-9e	175	2883
C. B. Lynch, Grayson 1, c ne nw, 4-18-12e	¶2	1722
Peters Pet. Co., Burford 1, sec sw, 36-16-10e	20	2731
Barnsdall Oil Corp., Smith 1, nec nw, 1-15-10e	1170	2679
Tidal Oil Co., Taylor 1, swc ne, 3-17-10e	*	2606
L. C. Wheeler et al, Morton 1, sec nw, 1-14-9e	*	....
Lyons Pet. Co., Harjo 1, sw se sw, 7-14-10e	*	3421
GARVIN COUNTY—		
Magnolia Pet. Co., Burr 2, sw se nw, 31-1n-3w	*	4515
GRADY COUNTY—		
David Malernee, Brown 1, se nw sw, 8-3n-7w	*	3502
HUGHES COUNTY—		
Itle, Sutton & Hart, McGee 1, cnl nw nw, 27-9-10e	¶1	2620
Jarvis & Holm, Street 1A, nw se nw, 21-7-8e	¶8	999
JEFFERSON COUNTY—		
Gypsy Oil Co., Bushby 3, swc se sw, 17-1s-5w	¶8	784
Lesh & McCall, Peniston 6A, nec se sw, 17-7s-5w	25	804
Peniston 7A, sec ne sw se, 17-7s-5w	35	807
KAY COUNTY—		
Carter Oil Co., Poole 1, ne nw sw, 30-25-1w	*	4465
Dewey, Mitchell et al, Root 1, nec nw se, 32-28-1w	*	3622
Carter Oil Co. et al, Johnson 2, c s½ ne, 18-29-1e	*	3615
MARSHALL COUNTY—		
E. L. Smith Oil Co., Hull 4, sec nw, 24-5s-5e	*	1045
MUSKOGEE COUNTY—		
G. D. Robinson, Lewis 1, c cw ne, 8-13-16e	80	2020
W. J. Metzger et al, Compton 2, cnl sw se se, 6-14-19e	10	823
Babcock Bros., Barnett 1, se sw nw, 8-15-15e	125	1608
NOBLE COUNTY—		
White, Wilson et al, Plumb 1A, sw se nw, 10-24-1w	*	900
OKFUSKEE COUNTY—		
T. A. Johnson et al, Robinson 1, sw nw nw, 12-10-11e	25	1620
Devonian Oil Co., Fier 2, sec sw ne, 11-10-11e	70	2045
E. L. Robinson et al, Severs 2, nwc se, 35-11-9e	7	1476
Atlantic Oil Prod. Co., Wind 2, swc ne, 35-11-9e	12	1465
Barnsdall Oil Corp., Tiger 1, swc ne, 31-12-10e	*	3296
OKMULGEE COUNTY—		
J. E. Wallace, Colbert 1, sec sw nw, 14-14-14e	25	1754
Prairie O. & G. Co., Lasky 1, nwc, se, 13-11e	¶19	2500
Mechlin & Berlin, Corbray 2, swc nw se, 22-14-14e	*	2308
M. Kavanough et al, Unallotted 1A, swc nw nw, 1-13-12e	*	1374
OSAGE COUNTY—		
Clint Moore Estate & Ohio Osage Oil Co. 9, cnl s½ sw, 9-21-9e	5	392
8, swc ne sw, 9-21-9e	8	411
A. H. Pettigrove 6, ne nw se, 11-23-11e	10	1517
Davis & Wright 1, nw ne sw, 5-21-9e	*	1597
PAWNEE COUNTY—		
Peter Adamson Jr. 1, sec, 24-21-7e	*	1779
PONTOTOC COUNTY—		
Homaokla Oil Co., Ritchie 1, ne sw se, 1-4n-7e	302	1998
POTTAWATOMIE COUNTY—		
The Prairie O. & G. Co., Gammon 1, nw sw nw, 30-7-5e	3710	4151
Magnolia Pet. Co., Vieux 1, swc se, 13-7-4e	5	3950
Robbins 4, sec, 15-7-4e	¶18	3785
Westheimer & Daube, Garrett 1, ne se sw, 23-7-4e	65	4080
Freid 4, sec nw, 24-7-4e	1310	4285
Magnolia Pet. Co., Ingle 1, nw ne nw, 34-7-4e	100	3980
SEMINOLE COUNTY—		
The Prairie O. & G. Co., Harris 1, sw ne sw, 14-7-6e	3725	4198
Harris 2, se ne sw, 14-7-6e	4150	4278
Prairie O. & G. Co. & Amerada Pet. Corp., Sunny 1, se ne nw, 14-7-6e	3745	4167
Sunny 2, sw nw nw, 14-7-6e	4470	4358
Sunny 3, nwc, 14-7-6e	3450	4420
Sunny 4, nw ne nw, 14-7-6e	6845	4270
Prairie O. & G. Co., Talley 1, nw se sw, 14-7-6e	3720	4461
Gibson 2, ne se nw, 14-7-6e	7140	4430
Gibson 3, swc nw, 14-7-6e	1500	4448
Gypsy Oil Co., Sango 12, se sw ne, 1-9-5e	3400	4364
Carter Oil Co., James 1, nw sw sw, 6-9-6e	1748	4362
Skelly Oil Co. & Atlantic Oil Prod. Co., Sherry 3, se nw sw, 6-9-6e	3683	4339
Magnolia Pet. Co., Vanbuskirk 2A, sw nw se, 9-8-6e	670	4185
I. T. I. O. Co., Williams 1, swc nw, 12-8-6e	204	4781
Continental Oil Co., Cosar 7, se ne nw, 36-8-6e	300	4422
Continental Oil Co., Cosar 8, ne se nw, 36-8-6e	300	4379
Magnolia Pet. Co., Hembree 3, ne sw se, 19-7-5e	9600	4174
Yants 1, nec sw, 19-7-5e	364	4325
Carter Oil Co., Harjo 1, ne se sw, 11-7-6e	8560	4045
Mid-Continent Pet. Corp., Bruner 3, sw se se, 11-7-6e	2710	4465
Pure Oil Co., Harjo 3, swc ne, 11-7-6e	310	4328
The Texas Co., Janey 1, se ne sw, 11-7-6e	650	4231
Carter Oil Co., Harjo 1, nwc sw, Janey 2, nec sw, 11-7-6e	1645	4202
Indep. O. & G. Co., Davis 2, nw sw 13-7-6e	1710	4552
sw, 13-7-6e	507	4356
Carter Oil Co., Tewee 2, ne sw ne, 14-7-6e	1350	4497
Champlin O. & R. Co., Tewee 1, sec ne, 14-7-6e	2475	4352
Skelly Oil Co., Carl 1, sw se ne, 14-7-6e	1462	4251
Magnolia Pet. Co., Reed 2, nec ne, 22-7-6e	2552	4161
Carter Oil Co., Cotche 1, swc ne, 23-7-6e	515	4285
Cudjo 1, nwc se, 23-7-6e	340	4350
Indep. O. & G. Co., Harris 2, swc ne, 23-7-6e	777	4384
Pure Oil Co., Cotche 2, sw ne ne, 23-7-6e	1120	4551
The Texas Co., Hotulke 2, swc nw, 23-7-6e	1705	4340
Sunray Oil Corp. & Larkin Pet. Co., Cluck 2, nwc, 4-9-6e	*	4396
Magnolia Pet. Co., Rhoades 4, se nw se, 12-8-6e	*	4333
Sinclair O. & G. Co., Williams 1, nec sw, 15-7-6e	*	4976
Williams 3, ne sw se, 15-7-6e	*	4111
E. W. Whitney, Harjo 1, ne nw ne, 25-7-6e	*	4325
STEPHENS COUNTY—		
Wirt Franklin Pet. Corp., Apple-Franklin 8, nw ne ne, 24-1s-4w	¶8	3351
Roy Carter, Burke 3 nec sw sw se, 34-1s-8w	12	1672
Petroleum Prod. Co., Bond 7, ne nw sw, 7-2s-7w	*	....
Harry Hines, Beaver 1, nwc se se, 18-3s-6w	*	2619
Magnolia Pet. Co., Wright 1, se ne se, 36-1n-4w	*	3504
TULSA COUNTY—		
Glidden Oil Corp., Wray 4, sec sw sw, 35-19-13e	*	1450
Mays & Keyser, Franklin 1A, c nene, 35-19-11e	*	2415
WAGGONER COUNTY—		
Taylor & Geigler, Rulison 1, sec sw nw, 9-15-16e	*	1400
Elk Drlg. Co., Grayson 1A, nec sw sw se, 34-17-18e	*	457
Turley Bros., Haynie 1A, nec nw nw se, 12-17-15e	*	1600
A. K. Creighton, Cinda 2, sec ne nw sw, 22-18-17e	*	290
A. E. Carder, Atkins 1, nwc ne ne, 25-16-15e	*	890
C. F. Cornett, Davis 1, c s½ nw, 12-18-15e	*	856
J. H. Stryker, Thomas 1, swc nw sw, 32-19-16e	*	680
Bradley & Musselem, Replogle 2, csl n½ nw, 31-17-16e	*	670

ARKANSAS

UNION COUNTY—		
Lytell et al, Stegall 1, 11-17-13	*	3350
Ohio Oil Co., Carroll 1, 6-17-13	*	3001
Ohio Oil Co., R. A. B. Smith 2, 1-17-14	*	3112
Reliance Drilling Co., Kelly 1, 9-17-14	*	2808
H. L. Hunt, Dopson 1, 3-19-12	*	3307
J. O. Moore, Pagan 1, 18-18-11	*	3305
CHICOT COUNTY—		
S. D. Hunter, Lytle 1, 9-19-3	*	3128

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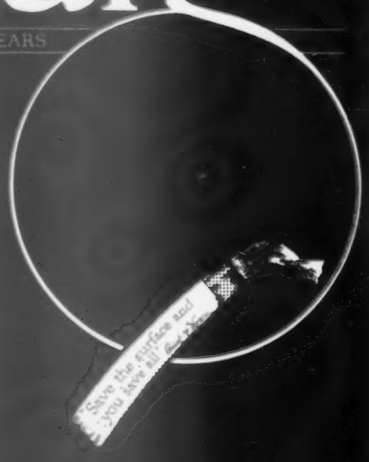
HAS SERVED THE OIL FIELDS OF THE WORLD FOR THIRTY-ONE YEARS

Aluminum Paint *for* Steel



PAINT is primarily used for protection—to protect the surface against the elements. To what extent, and how long this protection is assured, depends upon the quality of the paint.

After an exhaustive research Parkersburg standardized on Aluminum Paint. In actual tests, this paint proved to be a better oil field paint, and to give better protection than any other paint. It provides a flake coating of Aluminum Metal together with a coating of paint.

The outstanding advantages of Aluminum Paint are—its ability to minimize evaporation by reflecting the sun's heat, instead of absorbing the heat rays, and the superior protection it offers against corrosion of metal surfaces.

Parkersburg Aluminum Painted All-Steel Derricks, Tanks and other Steel Equipment, are protected against the elements by this coat of *Metallic Aluminum*, a protection that adds years to the life of the equipment, lowers derrick depreciation, reduces oil evaporation and checks deterioration.

When you buy Parkersburg Aluminum Painted Steel Equipment, you buy products that are manufactured on a quality basis, and protected by the latest coating process developed for combating rust and corrosion—Aluminum Paint.

Aluminum paint is opaque—and has a high reflectivity for light. Because of this the temperature of the paint, and of the material underneath, remains substantially lower than would be the case with other paints.

Parkersburg Products

Steel Derricks & Steel Crown Blocks	■	Rig Irons (A.P.I. Standard)	■
Chain Driven Sand Reels & Bailing Reels	■	Portable Drilling Machines (Wood & All-Steel)	■
Steel Wheels	■	Bolted Steel Tanks	■
All-Steel Standard Rigs	■	Miscellaneous Drilling Equipment	■

Check the equipment in which you are interested, tear out and return this page, with your name and address, to us, and we will send you complete information on the items checked.

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PARKERSBURG EQUIPMENT THE STANDARD FOR COMPARISON THE WORLD OVER

LOUISIANA

NORTH LOUISIANA

Company, Well and Location—	Initial Production Bbls.	Depth
CADDO PARISH—		
Dixie Oil Co., Robertshaw 95, 13-21-15	25	1705
Magnolia, D. H. Raines 26, 22-21-15	50	3975
Shreveport Oil Corp., Etchison 1, 32-21-15	100	2130
MOREHOUSE PARISH—		
J. S. Harkness, Bowles 1, 18-20-5e	¶5	2197
RICHLAND PARISH—		
Oliver & Hatch, Hatch Hrs. 1, 11-15-5e	*	2502
S. D. Hunter, McCoy B-2, 17-16-6e	¶24	2436
Oliver & Hatch, J. E. Morrison 1, 2-15-5e	*	2439
UNION PARISH—		
Natural Gas & Prod. Co., C. W. Hale 1, 5-21-4e	¶6	2167
LASALLE PARISH—		
H. L. Hunt, Inc., Urania B-7, 7-10-2e	75	1530
WINN PARISH—		
Calvin Oil Co., L. & A. 2, 9-11-4w	*	1702

SOUTH LOUISIANA

VINTON—		
Gulf, Star-Vincent 46	*	4100
Marrs McLean, G. & N. G. 1	*	2005

TEXAS

TEXAS GULF COAST

BIG CREEK—		
Gulf, T. W. Davis 37	200	4135
BLUE RIDGE—		
Watts Bros. Oil Co., Scott 1	*	4185
Navarro Oil Co., Robinson B-1	1500	4050
Moody Corp., West-Schneck 2	500	3700
Gordon & Sharp, Blakely C-4	500	2075
Gulf, Blakely B-14	950	4000
HULL—		
Republic Prod. Co., Dolbear 110	75	1790
ORANGE—		
Rycade Oil Corp., State A-6	40	4230
Sinclair O. & G. Co., Gallier 4	11	4330
PIERCE JUNCTION—		
Shaw et al, Fitzsimmons C-1	*	4060
SOUR LAKE—		
H. M. Terry, Lucey Moore 8	10	1200

EAST TEXAS

CASS COUNTY—		
David & Pigg, John Burleson 1, Young sur	*	2739

NORTH TEXAS

Company, Well and Location—	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Arco Oil Co., Perkins et al 8	18	1029
Continental Oil Co., Parrish 1	*	1700
Kemrow Prod. Co., Campbell 1	10	560
Kruger and The Texas Co., Turbeville 1	*	1525
Shappell Oil Co., Kemp & Kempner 1	*	1862
Gulf Prod. Co., W. O. Hayter A-3	240	1412
Gilliland Oil Co., Neimeyer 3	26	1396
King Royalty Co., Rogers 4	20	1274
Madden & Hunt, Richardson 1	53	1300
Pandem Oil Corp. & Lomax, Garvey 1	*	1554
Wichita Prod. Co., Goldsmith 7	5	1369
CLAY COUNTY—		
Lone Star Gas Co., Skelly Fee 11	¶140	1373
COOKE COUNTY—		
American Ref. Properties, Dennis 16	*	1537
Fain-McGaha Oil Corp., Otto 1	7	1002
JACK COUNTY—		
Wilson Clay Co., Greene 1	*	1113
Harrison et al, Gay 1	*	1500
WICHITA COUNTY—		
Hammon & Garrett, J. E. Terhune	*	1852
Staley & Wynne, Kemp & Kempner 2	25	1201
E. J. Stump & Co., Lockridge 1	*	1877
Trout & Lambert, Fassett 1	*	1904
Underwood Co., J. R. Pace 1	*	1863
WILBARGER COUNTY—		
Ancell, Fee 1	*	1802
Consolidated Oil Co., Waggoner 9	186	1852
Waggoner 11	443	1838
Waggoner 1-H	46	1904
Cosden & Co., Inc., Waggoner 23	190	2340
Waggoner 24	190	2305
Hamilton & Martin, Waggoner 4	183	1868
Hamilton & Wilson, Waggoner 1	220	1903
Simms Pet. Co., Waggoner 4	116	1871
The Texas Co., Waggoner 357	160	2408
Waggoner 11	490	2388
Waggoner Ref. Co., Waggoner 9	560	2427
YOUNG COUNTY—		
Cunningham & Bratcher, Bills 1	*	581
Hamilton & Anderson, Willard 1	*	998
Kleiner et al, Langston 17	50	600
Langston 18	10	610
Magnolia, Johnson 1	*	865
Pennell Oil Co., Johnston 3	20	517
Johnston 4	40	525
Johnston 2	4	594
Petroleum Prod. Co., Hennig 5	50	1094
Smith et al, Davis 1	*	851
Stafford, Boone 3	*	554
Tidal Oil Co., Garrett 3	65	566
Schermerhorn O. & G. Co., Thompson 2	100	2084

CENTRAL-WEST TEXAS

Company, Well and Location—	Initial Production Bbls.	Depth
BROWN COUNTY—		
Burris, Newton 7	40	1215
Charter Oil Co., Byler 10	75	1334
French's George 1	*	1392
Midland Oil Co., Butler 9	60	1275
Mitcham et al, Keller 2-B	*	1063
Valley Oil Co., Teston 10	280	1205
Williamson et al, Eddington 4	*	1168
Brown County Gas Co., McDonald 2	¶2	1486
Cox & Drake, Culbertson 1	*	1603
Uhl, Churchill 1	*	1227
COMANCHE COUNTY—		
Scoggin, Poteet 2	30	2800
CALLAHAN COUNTY—		
Burnham, Alexander 1	*	1527
Prairie O. & G. Co.'s Gillett 2	63	1725
COLEMAN COUNTY—		
Forester et al, Davenport 3	5	932
Simms Pet. Co., Brannon 1	*	1980
Taylor-Link Oil Co., Bowen 1	*	3005
Wilbern & Brian, Edmondson 1	*	1702
Amerada Pet. Corp., Holt Est. 1	*	1612
Darby Oil Co., Jennings 1	*	2435
Taylor, Gay 1	*	1718
EASTLAND COUNTY—		
Dale O. & R. Co., Fox 11	40	1630
Panhandle O. & R. Co., Hightower 28	5	1205
Lowe, Delaney & Carter, Ridens 1	*	2999
SHACKELFORD COUNTY—		
Roeser & Pedleton, Cook 77-A-60	25	1187
Cook 11-A-61	75	1362
Cook 1-A-145	*	1889
Tannehill Oil Co., Matthews 8	*	1410

PANHANDLE

GRAY COUNTY—		
Baldridge & Sherrin, A. Chapmen 1-B	40	2700
Empire G. & F. Co., H. T. Bender 2	65	3325
Prairie O. & G. Co., Worley-Reynolds 5	50	3225
Magnolia, E. R. Rakins 1	30	2990
HUTCHINSON COUNTY—		
Phillips Pet. Co., J. A. Whittenberg 12	110	2828
HANSFORD COUNTY—		
Caldwell et al, J. Adriance Est. 1	*	3233

WEST TEXAS

HOWARD COUNTY—		
Dunnigan & Hyer, H. R. Clay 1	136	1574
JONES COUNTY—		
Phillips Pet. Co., Boy 1	89	2470
WINKLER COUNTY—		
Atlantic Oil Prod. Co., Grisham-Hunter 5	*	2200
Atlantic & Collett, T. G. Hendrick 11	30,000	2780
Cranfill & Reynolds, T. G. Hendrick 4	12,000	2744
Prarie O. & G. Co., T. G. Hendrick 6	9600	2727
Roxana & The Texas Co., Grisham-Hunter 6	24,000	2786
Ida Hendrick 8-A	16,800	2943
T. G. Hendrick 3-C	24,000	2797
T. G. Hendrick 2-D	5160	2812
Skelly Oil Co., T. G. Hendrick 12	24,000	2727
Southern Crude Oil Pur. Co., Ida Hendrick 1-3-T-67-A	*	3202
Ida Hendrick 1-T-88-L	2000	2923
T. G. Hendrick 8-T-88-M	5040	2815
T. G. Hendrick 18-T-88-M	2400	2793
T. G. Hendrick 21-T-88-M	2400	2760
T. G. Hendrick 1-T-88-U	2160	2903
YATES FIELD—		
Gulf Prod. Co., I. G. Yates 18	1200	1310
Buel & Hagen, J. W. Robbin 1	*	2095
CHURCH & FIELDS POOL—		
Church & Fields-Simms & Atlantic's University 1-F	190	2977

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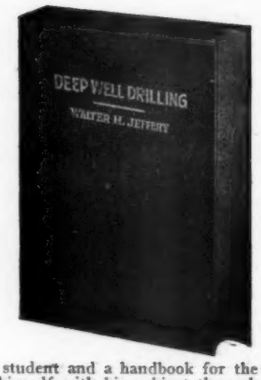

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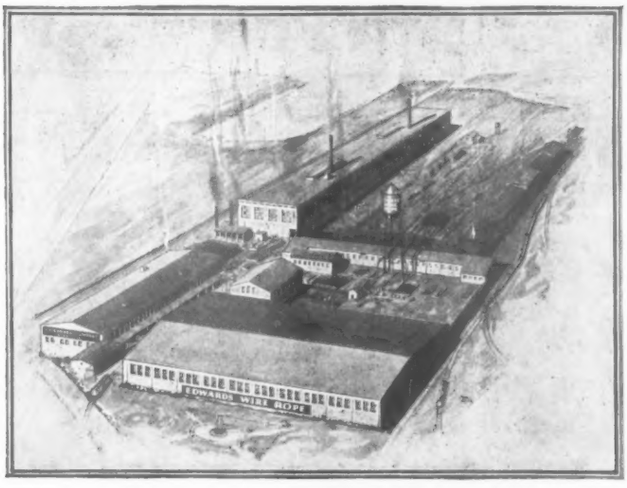

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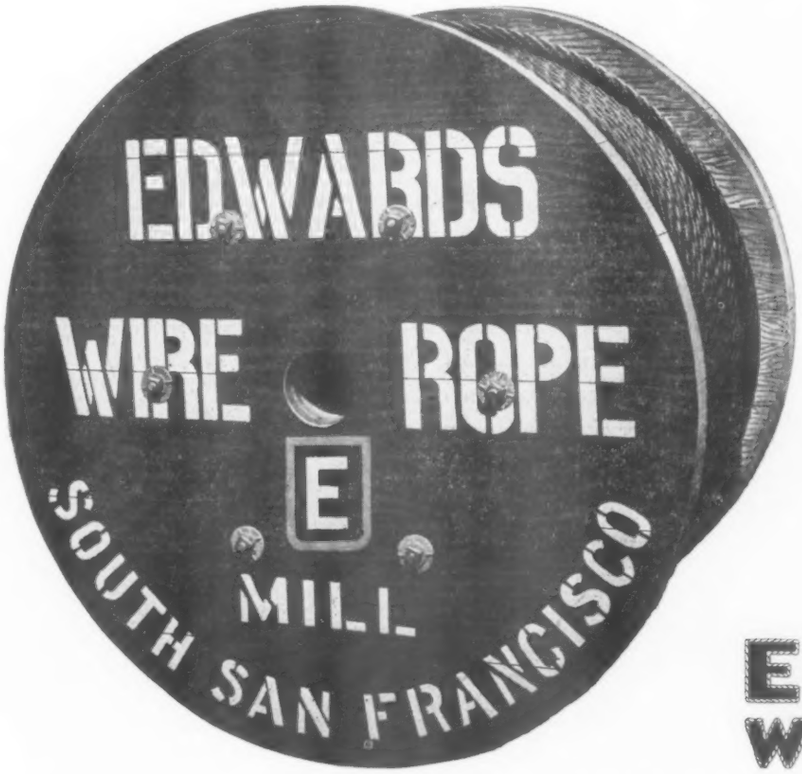

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PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending Sept. 8	Previous week	Total this month	Total this year	This week last year	This month 1927	Total same date 1927	Year total 1927
Arkansas	..	5	5	268	7	13	262	329
California	124	..	124	802	21	41	934	1,226
Louisiana	8	5	13	482	14	28	499	812
Kansas	17	26	43	744	14	35	712	972
Oklahoma	79	55	134	2,506	54	139	2,945	3,702
Texas	141	173	314	5,522	88	227	6,742	8,665
Mountain States	..	..	..	..	..	22	362	494
Total	369	264	633	10,328	198	505	12,456	16,149

TEXAS

ARCHER COUNTY—Mrs. H. B. Wallace, Wichita Falls, Kemp & Kempner, 37B S. P. Ry. 2, 365 ft ne of 29B; Wichita Prod. Co., Wichita Falls, Goldsmith 4, J. L. Anderson sur, 150 ft from n&e lines. C. W. Gilliland, Wichita Falls, Niemeyer 5, 2415 T. E. & L. sur, 150 ft from n&w lines.

ANGELINA COUNTY—Roxana, Houston, Long Bell 10, E. Brown sur, 20 Vs. from n & 286 Vs. from w line.

BROWN COUNTY—Anne Belle Oil Co., Cisco, Hickman 10, J. McGloin sur, 300 ft w of No. 6; Hickman 8, T. Benson sur, 300 ft e of No. 3. Otis Malcolm, Zephyr, Cabler 1, Dardyske sur, 300 ft from n & 900 ft from w line. Barney Carter, Ranger, Church 1, J. Delgado sur. Kone Prod. Co., Cisco, Hickman B15, No. 783 T. Benson, NE corner. R. F. Hart et al, Brownwood, Hart & Roth 1, No. 35 H. & T. C. sur, 150 ft from e & 2242 ft from s line. Annabelle Oil Co., Cisco, Hickman 12, T. Benson sur, 300 ft e of No. 9; Armstrong 4, P. Curlong sur, 300 ft s of No. 3. Kerr & Chambers, Brownwood, Boysen 1, P. Mangle sur, NE corner. Malone, Spear & Starr, Cisco, Graham 1, J. Brown sur, 150 ft from n&w lines.

BASTROP COUNTY — Gulf Prod. Co., Houston, Jones 1, C. A. West sur, center.

BEXAR COUNTY—Schimmel Prod. Corp., Fort Worth, Tick 14, No. 265, J. Wilson sur, 617 ft n of No. 13.

BURLESON COUNTY—Rita Oil & Gas Co., Caldwell, Sparks 2, Davis sur.

CALLAHAN COUNTY—Jos. R. Haynes, San Antonio, Wagley 3, 2969 T. E. & L. sur, sw corner. J. F. Mason, Fort Worth, Ogle 8M, 2974 T. E. & L. sur, 210 ft ne of No. 20; 2M, 250 ft n of No. 12; 3M, 25 ft s of No. 5; 4M 25 ft s of No. 3; 5M, 25 ft s of No. 10. Prairie O. & G. Co., Ranger, W. R. Ely 1, G. M. Vigal sur, 150 ft from e & 800 ft from s line. Graham & Lash, Cisco, Wagley 1, S 57, L. A. L. sur, center. E. N. Schaffner et al, Cross Plains, Derrington 1, W. G. Anderson sur, 450 ft w & 150 ft from s line. J. F. Mason, Fort Worth, Ogle 1M, 2297, T. E. & L. sur, 225 fe se of No. 11. Moutray Oil Co., Abilene, Hickman 19, S 149, B.B.B.&C., 400 ft se of No. 16.

CALDWELL COUNTY—Magnolia Pet. Co., Dallas, McKinney 4, Jno. Henry sur, 300 ft nw of No. 1. Roxana Pet. Corp., Dallas, Jolley A4, C. Crenshaw sur, 300 fe se of No. 3; Jolley B1, McFerrin sur, 650 ft from nw & 450 ft from sw line. Luling O. & G. Co., Luling, Carter 3, G. Hinds sur, 150 ft from w & 750 ft from s line. Townsend & Whittington, Lockhart, Harper 1, S. B. Morrison sur, 3084 ft from ne & 626 ft from se line.

COLEMAN COUNTY—Midsun Oil Co., Brownwood, McClellan 1, S No. 262, E. Anderson sur. H. G. Gwinnup, Fort Worth, Morris 1, No. 262, E. Anderson sur, east central. Charter Oil Co., Brownwood, Crump 4, B13, J. Scott sur No. 665, 150 ft from s & e lines.

COMANCHE COUNTY—G. R. Frame, Gorman, Short 1, S 50 B 2 H. & T. C. sur, 150 ft from w & 450 ft from s line.

COKE COUNTY—C. W. Beckwith, St. Jo, Barnes & Field 1, No. 1708, J. M. Allen sur, 164 ft from w & 150 ft from s line. Louisiana O. & R. Corp., Shreveport, La., Powers 1, S 158, B. 2, H. & T. C. sur, sw corner.

COOKE COUNTY—Kewanee O. & G. Co., Tulsa, Okla., Dennis A 22, T. J. Moss sur, 275 ft n of No. 21. Pacific O. & G. Co., Fort Worth, Franklin 1, E. Ball sur, 150 ft from s & 450 ft from e line.

DAWSON COUNTY—Magnolia Pet. Co., Dallas, Jeter 1, S 1 B 34, T. & P. sur, 1980 ft from sw & 2633 ft from se line.

DUVAL COUNTY—O'Hern & Seacord, Laredo, Benavides 6, No. 172, 2877 ft from w & 2533 ft from n line.

EASTLAND COUNTY—P. B. Goodwin, Breckenridge, Armstrong 1, W. Van Norman sur, 500 ft from n & 280 ft fro me line; Hazard 1, B 31, 180 ft from w & 677 ft from s line.

FORT BEND COUNTY—Navarro Oil Co., Houston, Overley 1, B 11, H. Shropshire sur, 66 ft w of e line & 50 ft from n line. Gulf Prod. Co., Houston, Davis 48, M. Young sur, south central part of blk 27; Wolf 11, No. 98, H. & T. C. sur, 600 ft s of No. 9. Navarro Oil Co., Houston, Hausler 2, B 27, B. Wickson sur, 650 ft nw of No. 1.

GRAY COUNTY—Gulf Prod. Co., Fort Worth, McLarty 1, S 2, B 1, A. C. H. & B. sur, 482 ft from w & 150 ft from s line. Prairie O. & G. Co., Ranger, Harrah 2, S 163, B. 3, I. & G. N. sur, 990 ft s of No. 1. Hermann et al, Amarillo, McLarty 1, S. 1, B. 1, A. C. H. & B. sur, 330 ft from s & w lines. Republic Prod. Co., Dallas, Hen, Saunders 1, S. 4, B. 1, A. C. H. & B. sur, 1650 ft from w & 2310 ft from n line, S. 4.

GONZALES COUNTY—Texas Co., Houston, Bateman 1, A. Zumwalt sur, 150 ft from s & e lines.

GLASSCOCK COUNTY—Cosden & Co., Inc., Fort Worth, Roberts E 1E, S 157, B. 29, W. & N. W. sur, 330 ft from n & w lines.

GUADALUPE COUNTY—Sun Oil Co., Dallas, McKinney 1, J. Hinds sur, 600 ft from sw & 300 ft from se line.

HARRIS COUNTY—Rio Bravo Oil Co., Houston, Fee 9, J. Kopman sur, 50 ft from e & 1312 ft from s line. C. S. Thomas, Houston, Perkins 1, W. B. Adams sur, 50 ft from e & 200 ft from s line.

HARDIN COUNTY—Ada Delle Oil Co., Batson, Texas Co. 120, F. H. Green sur, 35 ft n of center of s line; 119, 135 ft from e & 45 ft from s line. Rio Bravo Oil Co., Houston, Jorditt 85, C. F. S. Jorditt sur, 200 ft s of No. J83.

HOWARD COUNTY—Louisiana O. & R. Corp., Shreveport, La., Kloh 1, S. 3, B. 32, T. 25, T. & P. sur, 330 ft from s&w lines. Magnolia Pet. Co., Dallas, Roberts 14, S. 157, B. 29, W. & N. W. sur, 660 ft s of No. 2; 15, 990 ft s of No. 3.

JACK COUNTY—Buttram Pet. Corp., Oklahoma City, Cullers 2, S. Chairs sur, 250 ft from w & 411 ft from s line.

JONES COUNTY—Independent O. & G. Co., Fort Worth, Smith 1, S. 51, B. 18, T. & P. sur, 319 ft from e & 330 ft from s line.

JEFFERSON COUNTY — Yount-Lee Oil Co., Beaumont, McFaddin 78, P. Humphreys sur, 255 ft from w & 285 ft from n line. Unity Oil Co., Beaumont, McFaddin 97, P. Humphreys sur, 435 ft from nw & 750 ft from sw line.

LIBERTY COUNTY—Big Six Oil Co., Daisetta, Stovall 17, 1 Devore sur, sw corner. Deering & Kruger, Houston, Fee 2, S. 135, H. & T. C. sur, 2900 ft from s & 200 ft from w line. Liberty Pet. Co., Liberty, Turner 1, M. G. White sur, 72 ft from n & 50 ft from e line.

LEON COUNTY—J. B. Patty, Mexia, Randell 1, T. H. Garner sur, 150 ft from n & e lines.

MILAM COUNTY—Coffield & Hale, Rockdale, Posey 1, R. Moore sur, 1600 ft from w & 2000 ft from s line.

McLENNAN COUNTY—J. T. Callahan, Waco, Robertson 1, J. C. Carrier sur, 500 ft from w & 700 ft from n line; Westbrook 1, McKean sur, 400 ft from w & 600 ft from n line.

PANOLA COUNTY—W. K. Rowe, Bethany, La., Adams 1, E. Jones sur, 350 ft from n & 550 ft from w line.

PECOS COUNTY—Red Bank Oil Co., Tulsa, Okla., Smith 4, S. 24, B. 194, G. C. & S. F. sur, 832 ft from n & 862 ft from w line s. McMan O. & G. Co., Tulsa, Okla., Richardson 3, S. 107, B. 194, G. C. & S. F. sur, 200 ft w of center of e line.

SHACKLEFORD COUNTY — Tom James, Albany, Moberly 10, S. 59, E. T. Ry. sur, 477 ft from w & 186 ft from n line. Sterling O. & G. Co., Abilene, McLemore 9, M. A. Wood sur, 690 ft from e & 836 ft from s line. S. G. McClintock, Albany, Isbell 1, 818, T. E. & L. sur, 150 ft from n&e lines. Ray T. Hoff, Moran, Snyder 4, S. 39, L. A. L. sur, 2500 ft from e & 1320 ft from n line. A. J. Hughes et al, Albany, Bradford 1, S. 3, Blind Asy. 150 ft from n&e lines. L. B. Tannehill, Albany, Matthews 8, S. 58, E. T. Ry. sur, 800 ft nw of No. 6. Union Oil & Mining Co., Tulsa, Okla., Huskey 28, 548, T. E. & L. sur, 300 ft s of No. 21. A. G. Crawford et al, Breckenridge, Leach 1, S. 23, L. A. L. sur, 540 ft from w & 1240 ft from s line. Less Combest et al, Mineral Wells, Broyles 13, S. 7, L. A. L. sur, 150 ft from n & 330 ft from e line. Smith & Welsh, Tulsa, Okla., Harvey 1, S. 5, B. 14, T. & P. sur, 1070 ft from n & 2390 ft from w line. Roeser & Pendleton, Inc., Fort Worth, Cook C32, S. 60, E. T. Ry. sur, 1038 ft from n & 1714 ft from w line; C33, 1040 ft from n & 1323 ft from w line; C34, 1453 ft from n & 932 ft from w line; Cook A13, S. 61, E. T. Ry. sur, 1521 ft from s & 421 ft from e line; A14, S. 60, E. T. Ry. sur, 416 ft from n & 150 ft from w line; A7, S. 62, E. T. Ry. sur, 416 ft from n & 220 ft from w line.

TAYLOR COUNTY—Grishom-Hunter Corp., Abilene, Stevens 1, S. 53, B. 19, T. & P. sur, 200 ft from n&w lines.

THROCKMORTON COUNTY—Humble O. & R. Co., Houston, Latham 1, 986, T. E. & L. sur, 1566 ft from s&w lines.

WICHITA COUNTY—Continental Oil Co., Wichita Falls, Horton 16, B. B. B. & C. sur; Roller C 13, D. I. & C. W. H. Hammon et al, Wichita Falls, McCarty A 7, W. R. Eaves sur. Atlas Prod. Co., Burkburnett, George 3, S. A. & M. G. No. 1, 150 ft from n&w lines. Harris & Brock, Wichita Falls, Overby 1, Terhune sur, 150 ft from s&e lines. Empire Holding Corp., Wichita Falls, Ancell 4, B. 7, S. 11, H. & T. C. sur, 430 ft from w & 750 ft from s line. C. W. Clark, Wichita Falls, Blair & Kemp 4, B. 19, M. Roberts sur, 300 ft se of No. 2. Panhandle Ref. Co., & Hines, Wichita Falls, J & J Waggoner 6, S. 2, G. C. & S. F. sur, 300 ft e of No. 3. Gulf Prod. Co., Fort Worth, Forbes-Burnett 22, S. 7, H. T. & B. sur, 300 ft w of No. 19; Burnett A 42, S. 5, H. T. & B. sur, 850 ft s of No. 8. Swanner & Williams, Wichita Falls, Williams-Parker 2, B. 4, J. McCool sur, 922 ft from e & 1540 ft from s line. Empire Holding Co., Wichita Falls, Ancell 6, S. 11, B. 7, H. & T. C. sur, 300 ft nw of No. 5. Hammon & Garrett, Wichita Falls, Mitchell 4, J. T. Lewis sur, 50 ft s of No. 2.

WINKLER COUNTY—Eastland Oil Co., Fort Worth, Hendricks 1A, S. 35, B. B5, 100 ft se of No. 1. Republic Prod. Co., San Angelo, T. G. Hendrick 5B, S. 42, B. B5, 990 ft from n&e lines of Sec. 42. Magnolia Pet. Co., Dallas, Scarborough 1, S. 1, B. C22, 330 ft from n&w lines. Eastland Oil Co. et al, Fort Worth, Lemar 1B, S. 46, B. 26, 330 ft from s&w lines; 2B, 330 ft from n&w lines. G. C. Dawson, Kermit, Townsite 1, S. 26, B. B3, nw cor of lot 7, blk 11, Kermit. Dixie & Southern Crude Oil Purhcasing Co., Shreveport, La., I. Handricks 310, 2, S. 34, B. 26, 2310 ft from n & 330

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ft from w line of S. 34; 240, 3, S. 28, B. 26, 330 ft from e & 440 ft from s line of S. 28; 225 4, S. 34, B. 26, 1650 ft from s&w lines of S. 34; 75 3, S. 30, B. B5, 990 ft from e & 2310 ft from s line Sec. 30; T. G. Hendrick 80, A4, S. 35, B. B5, 1650 ft from n & 330 ft from w line of S. 35; 75, J4, S. 30, B. B5, 330 ft from s&e lines of Sec. 30; 225, T5, S. 34, B. 26, 990 ft from w & 330 tf from s line of S. 34; 110 1, S. 46, B. 26, 2310 ft from e & 1815 ft from s line S. 46; 80, B2, S. 46, B. 26, 2200 ft from n & 2310 ft from s line S. 46; 50, D1, S. 35, B. B5, 2310 ft from n & 1650 ft from w line S. 35; 150, E1, S. 40, B. B5, 330 ft from n & 2310 ft from e line of S. 40; I. Hendrick 50, B3, S. 33, B. 26, 990 ft from w & 2285 ft from s line S. 33; 160, R1, S. 27, B. 26, 330 ft from w & 440 ft from s line of S. 27.

WILBARGER COUNTY—Fain-McGaha Oil Corp., Wichita Falls, Waggoner 21, S. 50, B. 4, H. & T. C. sur, 150 ft from n&e lines. Texas Co., Wichita Falls, Waggoner L1, S. 12, B. 4, H. & T. C. sur, 205 ft from s&e lines. Fain-McGaha Oil Corp., Wichita Falls, Waggoner S 14, S. 24, B. 4, H. & T. C. sur, 150 ft from s&e lines; S13, 150 ft from s&w lines. A. L. Derby, Wichita, Kansas, Waggoner 2, T. Purnell sur, 165 ft from n&e lines.

WEBB COUNTY—Houston Oil Co., Houston, Benavides E3, B. 11, No. 753, 160 ft from n&e lines. O. W. Killam, Laredo, Bruni 22, B. 64, Arriba sur, 300 ft of No. 20. Houston Oil Co., Houston, Benavides D12, B. 12, No. 753, 320 ft of No. D10; D13, 300 ft n of No. 9.

WHEELER COUNTY—J. P. White, Shamrock, Thurmond 1, S. 100, B. 17, H. & G. N. sur, 660 ft from s&w lines.

YOUNG COUNTY—Gulf Prod. Co., Fort Worth, Campbell E1, S. 1371, T. E. & L. sur, 456 ft from n & 1350 ft from w line.

ZAPATA COUNTY—O. W. Killam, Laredo, Cuellar 3, J. M. Pereda sur, 1235 ft from nw & 1850 ft from ne line.

LOUISIANA

BOSSIER PARISH—Ark. Nat. Gas Corp., Shreveport, J. H. Van Hoose B-4, 36-16n-12w, 1445 ft s and 1000 ft w of nec.

CADDO PARISH—Bayou State Oil Corp., Shreveport, Hoss Hrs. 33, 24-22n-15w, 250 ft n and 400 ft w of se c nw sw.

CAMERON PARISH—Yount-Lee Oil Co., Beaumont, State Land 17, 24-12s-10w, 320 ft n and 480 ft w of sw c sec. 36 in sec. 24-12s-10w; State Land 18, 24-12s-10w, 353 ft n and 628 ft w of sw c Sec. 36 in Sec. 24-12s-10w.

DE SOTO PARISH—Louisiana Public Utilities Co., Mansfield, W. K. Williams 1, 22-12n-12w, 660 ft w and 600 ft s of ne c se. Paul C. Warren et al, Chicago, Ramsey 1, 33-13n-16w, 503 ft s and 503 ft w of nec sw ne.

FRANKLIN PARISH—F. M. Davis et al, Shreveport, Moore 1, 12-11n-6e, 600 ft w and 200 ft s of nec se.

RICHLAND PARISH—S. C. Wilson et al, Winnsboro, T. O. Buie 1, 17-15n-7e, 600 ft e and 400 ft n of swc.

KANSAS

BUTLER COUNTY—Blue Stem Oil Co. Doughty 4, cnl nw sw, 5-27-6e. Empire O. & R. Co. Butler 2A, ne se ne, 22-27-5e. Davis & Hazlett Lewis 8, nw se sw, 3-27-6e. Garden et al Sluss 3A, nec sw ne, 6-27-6e. Empire O. &. R. Co. Sluss 3, cel se nw, 6-27-6e.

COWLEY COUNTY—The Prairie O. & G. Co. Graham 2, se sw sw, 10-32-4e. Roth & Faurot Graves 2, sw ne se, 32-32-5e.

ELK COUNTY—Sooner Gas Co. Webb 4, swc, 10-31-10e.

McPHERSON COUNTY—McPherson O. & G. Co. Anderson 2, c sw ne, 31-18-2w. The Prairie O. & G. Co. Anderson 1, c nw ne, 31-18-2w.

OSBORNE COUNTY—Jarvis et al Jellison 1, sec, 13-10-15w.

SEDGEWICK COUNTY—Bu-Vi-Bar Pet. Co. et al Lyons 1, sw nw sw, 7-26-1e. Lance 1, ne se se, 12-26-1w.

SUMMER COUNTY—Helmerick & Payne Wartick 1, sec ne, 8-34-2e.

WASHINGTON COUNTY—McCool & Vincent Linn 1, nwc ne, 27-4-3e.

WOODSON COUNTY—Oko Pet. Co. Ollinger 4, se nw nw, 14-23-13e. Fields & Cross Eddes 1, ne nw se, 24-25-13e.

OKLAHOMA

CARTER COUNTY — Magnolia Pet. Co., Wallace 1, ne sw ne, 22-1s-3w; Lewis 5, ne nw ne, 23-1s-3w. Roxana Pet. Corp., Snow 1, sw nw se, 23-1s-3w. Magnolia Pet. Co., Cox 1, sw se nw, 33-1s-3w.

CREEK COUNTY — The Prairie O. & G. Co., Coachman 5, nec nw, 20-17-7e. Lebow Oil Co., Tiger 14, sw nw nw, 17-17-7e. H. C. Wilson, Asbury 3, nwc ne, 1-15-10e. Dixie Oil Co., Tahkaney 4, nec sw se, 7-19-9e. Whitten & Wilcox O. & G. Co., Wrightsman 2, sec nw, 11-17-10e. T. Wheeler et al, Smith 1, nec nw, 32-17-11e.

GRANT COUNTY—Champlin O. & R. Co., Fee 1, se ne se, 15-27-3w.

JEFFERSON COUNTY—Hambro Oil Co., Seay 1, cel ne ne, 32-6s-5w. Lesh & McCall Penniston 3A, swc ne se sw, 17-7s-5w.

KAY COUNTY—Harold Pet. Co., Case 7, sw ne sw, 4-27-1w. Wilson & Bradshaw, Murdock 1A, sec sw sw, 2-27-3e.

MUSKOGEE COUNTY — Babcock Bros. Barnett 2, cel sw ne, 8-15-15e. Bryan & Emery, Barnett 6, cwl e½ ne, 8-15-15e. M. S. Musselem, Gossett 1, cel sw se, 28-15-18e. W. C. Cushing et al, Myers 1, sec sw sw, 23-15-17e. Metzger Bros. Garrett 1A, cnl nw ne, 33-15-18e. M. S. Musselem Jackson 1, c sw se, 10-14-17e. A. Tillman, Callahan 1A, nec se se, 2-14-18e. Tidal Oil Co., Grimmett 14, c e½ sw sw, 5-14-18e. L. T. Haney, Holt 1, nwc ne nw, 20-14-20e. E. B. George et al, Flowers 3, swc ne, 5-13-16e. J. A. Barbre et al, Lewis 1, cwl se ne, 8-13-16e.

OKFUSKEE COUNTY — W. R. Ramsey, Severs 1, c ne ne, 36-11-9e. Devonian Oil Co., Fier 3, sec ne sw ne, 11-10-11e. W. L. Umbrum, Simmer 2, sec nw se ne, 11-10-11e. Twin State Oil Co., Fier 1, nec nw ne, 11-10-11e.

OKMULGEE COUNTY—Unger Bros. Sells 1, nwc ne, 25-15-14e. McInturff et al, Myers 1, cnl sw ne, 8-13-14e. Star Dev. Co., Scott 4, nec nw se ne, 15-13-14e. W. B. Pine, Henry 1, sec ne ne, 30-12-13e. Dixie Oil Co., Henry 1, nec sw, 27-12-12e.

OSAGE COUNTY—Mid Co. Oil Co., 4, nw sw sw, 25-27-11e. Winona Oil Co., 8, sw nw

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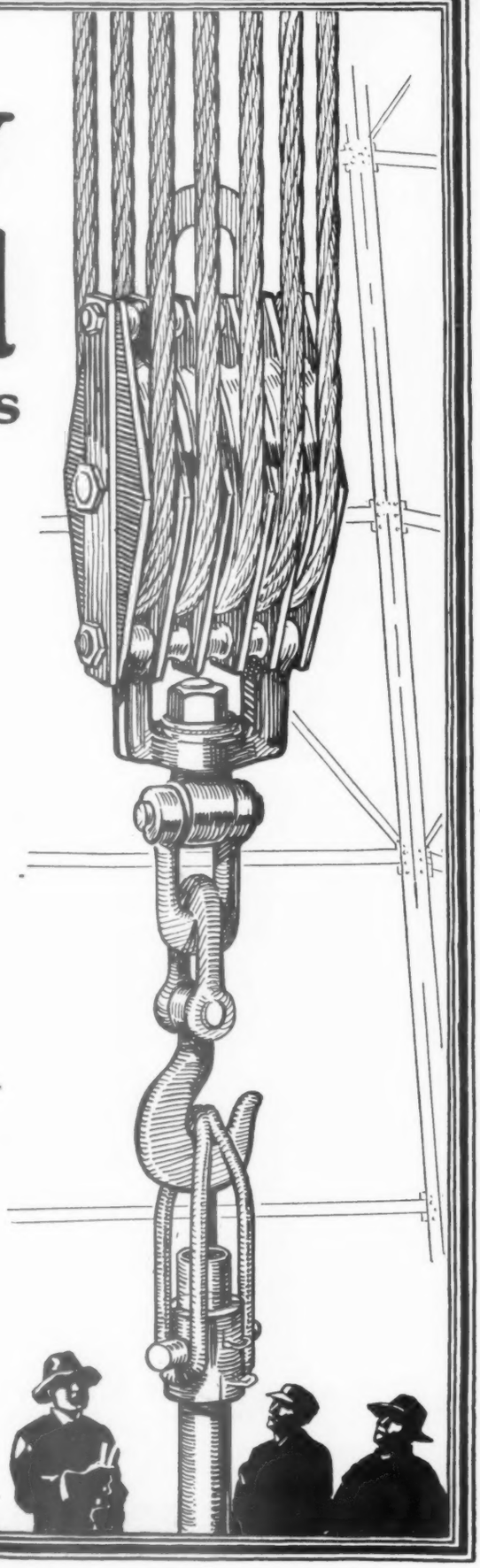

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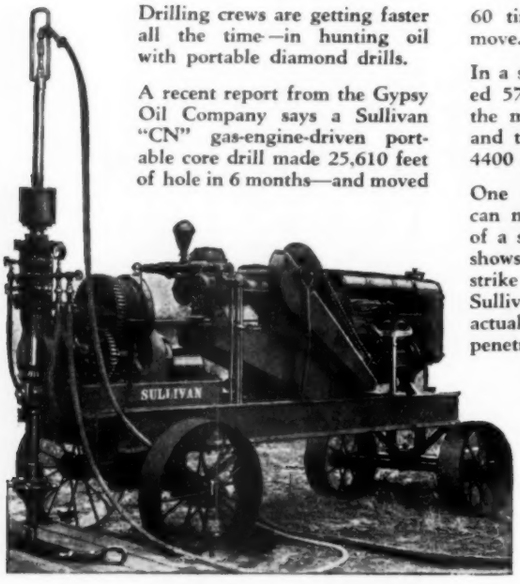

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sw, 27-24-10e. Osage Gas Prod. 392, nwc ne nw, 32-24-12e. I. T. I. O. Co., 398, nw se se, 29-23-9e. Harry McGill 1, swc se 8-22-8e.

PAWNEE COUNTY—Turner et al, Est 2, swc se se ne, 30-20-9e. Peter Adamson, Jr., 2, sec sw se, 24-21-7e.

POTTAWATOMIE COUNTY—The Prairie O.&G. Co. Gammon 6, ne sw nw, 30-7-5e; Gammon 7, se sw nw, 30-7-5e; Gammon 8, sw se nw, 30-7-5e; Wolfe 4, sw nw nw, 20-7-5e; Wolfe 3, ne nw nw, 29-7-5e; Ellison 4, se ne sw, 25-7-4e. Amerada Pet. Corp., Crossland 1, nec sw, 8-8-5e. Gypsy Oil Co., LeClair 3, se sw se, 23-7-4e. The Texas Co., Cherry 3, ne nw nw, 25-7-4e. Magnolia Pet. Co., Tull Fyke 2D, nw ne nw, 29-7-5e. Indep. O. & G. Co., Blandin 3, nw ne sw, 30-7-5e; Blandin 4, ne nw sw, 30-7-5e. Mid Kansas O. & G. Co., Lunay 3, sw nw nw, 30-7-5e. Mid Kansas O. & G. Co., Lunay 4, se nw nw 30-7-5e. Tomlinson et al, Whisenhut 1, nw ne se, 35-7-5e.

SEMINOLE COUNTY — Gypsy Oil Co., Sango 13, ne nw se, 1-9-5e. Sango 14, sw ne se, 1-9-5e. Carter Oil Co., James 5, nw ne sw, 6-9-5e. Skelly Oil Co., Shepherd 2, se sw nw, 6-9-6e. T. B. Slick & Skelly Oil Co., Campbell 4, sw se nw, 6-9-6e. Campbell 5, se ne nw, 6-9-6e. Gypsy Oil Co., Lena 1, sec ne, 10-7-6e. Carter Oil Co., Harjo 4, nw se sw, 11-7-6e. Jackson 4, nwc ne, 11-7-6e. Continental Oil Co., Milsey 3, ne sw sw, 11-7-6e. The Texas Co., Janey 5, sw ne sw, 11-7-6e. Janey 6, se nw sw, 11-7-6e. Indep. O. & G. Co., Davis 3, se sw sw, 13-7-6e. Carter Oil Co., Cudjo 2, ne nw se, 23-7-6e. Mid Continent Pet. Corp., Aleck 2, se ne se, 23-7-6e. Tidal Oil Co., Harrison 1, nwc, 10-7-7e.

STEPHENS COUNTY—Medlin et al Simpson 2, swc se sw se, 34-1s-8w. Magnolia Pet. Co., Cook 11, nec nw sw, 30-1n-8w.

TULSA COUNTY — Sand Springs Home Jones 3, cel nw nw, 15-19-11e. H. Breem et al, Mackey 1, nwc ne, 36-19-13e.

WAGGONER COUNTY — Brinker et al Lewis 1A, nec nw nw ne, 31-18-18e. J. P. Duke et al, Brown 1, nec sw nw, 36-16-17e. Hale-Ford Oil Co., Brown 2, ne se nw, 36-16-17e.

CALIFORNIA

ALAMEDA COUNTY—Foster & Hammill, No. 2, 21-3-3.

BELRIDGE—Berry Oil Co., No. 94, 30-28-21.

ELWOOD—Barnsdall Oil Co., Elwood Community 1, -4-29.

HUNTINGTON BEACH—Standard Oil Co., Bolsa 39, 34-5-11. Western Drilling and Producing Co., No. 24, 10-6-11. Rex Oil Co., No. 9, 35-5-11.

KERN COUNTY—Pacific Eastern Production Co., Hughes Community 1, 5-30-28. Elk Horn Oil Co., No. 1, 20-28-20. Pacific Eastern Prod. Co., 5-KCL-B, 22-29-27; 4-KCL-A, 6-30-28; 4-KCL-B, 22-29-27.

LONG BEACH—M. C. M. Oil Synd., No. 1, 19-4-12. General Pet. Corp., Ransome 1, 13-4-13. Shell Co., Stakemiller 6, 29-4-12; Pickler 10, 29-4-12; Nesa 10, 29-4-12; Marcellus 6, 19-4-12. Chas. A. Son, No. 10, 19-4-12. General Pet. Corp., Kerschner 1, 24-4-13.

LOS ANGELES COUNTY—Smith Pet. Co., Peck 1, 20-3-14. Empire Drilling Co., Gaffey 1, 14-2-12.

MIDWAY—Standard Oil Co., No. 62, 7-32-24. Honolulu Consolidated Oil Co., No. 14, 8-32-24.

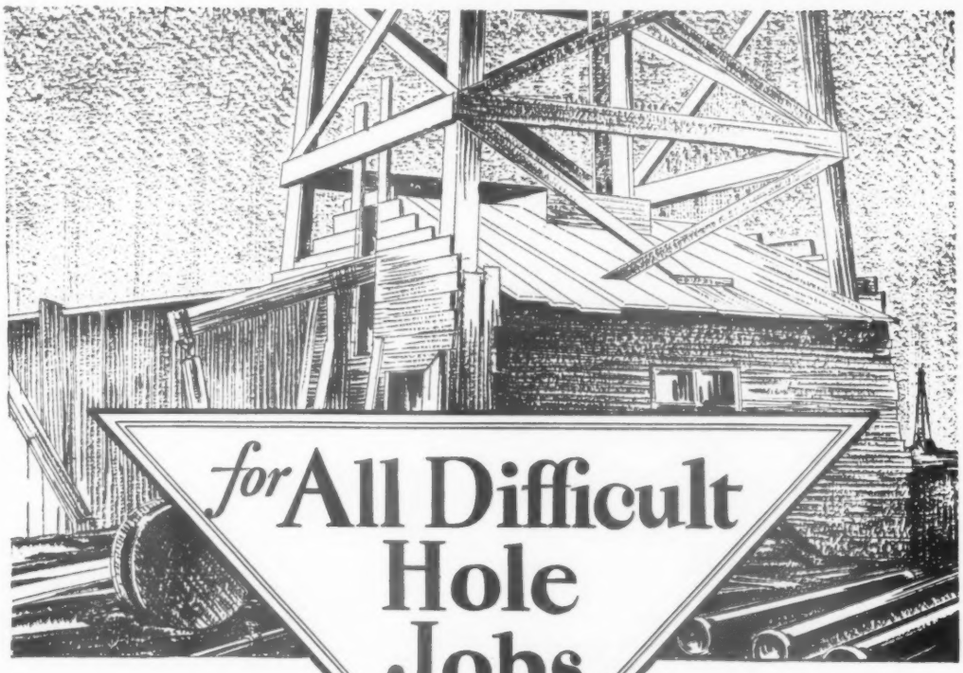
McKITTRICK—The Ohio Oil Co., No. 2, 8-30-22.

MT. POSO—R. S. Lytle, No. 2, 26-27-28. Petroleum Securities Co., Glide 2, 21-27-28.

MOODY GULCH—H. W. Covert, No. 6, 8-9-1.

RICHFIELD—Continental Oil Co., Winann 1, 33-3-9. O'Brien & Webber, No. 1, 28-3-9.

SANTA FE SPRINGS—General Pet. Corp., Ransome 1, 13-4-13; Anderson 153-C, 5-3-11; Santa Fe 145-B, 5-3-11; Santa Fe 152D, 5-3-11; Santa Fe 204, 5-3-11; Santa Fe Comm. 177-C, 6-3-11; Santa Fe Comm. 177-C, 6-3-11; Santa Fe Comm. 178-B, 6-3-11; Santa Fe 179-D, 6-3-11; Santa Fe 186-E, 6-3-11; Jalk 112, 6-3-11; Santa Fe Comm. 191-C, 6-3-11; Hill-Midway 103, 6-3-11; Santa Fe 225, 5-3-11; Santa Fe 208, 5-3-11; Santa Fe 160-A, 5-3-11; Santa Fe 161-A, 5-3-11; Santa Fe Comm. 178-A, 6-3-11; Santa Fe Comm. 185-B, 6-3-11; Santa Fe 168-B,



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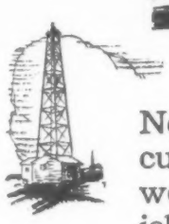

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5-3-11; Santa Fe 168-C, 5-3-11; Hill 187-B, 6-3-11; Santa Fe 189-C, 6-3-11; Santa Fe 189-D, 6-3-11; Santa Fe 190-D, 6-3-11; Santa Fe 190-C, 6-3-11; Santa Fe Comm. 191-B, 6-3-11; E. G. B. 101-B, 6-3-11. The Texas Co., Patterson 11, 6-3-11; Steinly 6, 6-3-11; Patterson 12, 6-3-11; Wickman 3, 5-3-11; Weaver 5, 6-3-11; Weaver 6, 6-3-11; Foix 4, 6-3-11; Foix 5, 6-3-11; Foix 6, 6-3-11; Matern Three 13, 6-3-11; Matern Three 14, 6-3-11. Standard Oil Co., Walker Comm. 12, 8-3-11; Johnson 6, 6-3-11; Hepler 6, 31-2-11; Santa Gertrudes 11, 31-2-11; Jordan 7, 6-3-11; Weisel 13, 6-3-11; Koontz 9, 6-3-11; Koontz 10, 6-3-11; Walker Comm. 11, 6-3-11; Walker Comm. 13, 6-3-11; Walker Comm. 14, 6-3-11. Union Oil Co., Haward 9, 31-2-11; Howard 10, 31-2-11; Alexander 13, 6-3-11; Alexander 14, 6-3-11; Alexander 16, 6-3-11; Bell 35, 6-3-11; Bell 39, 6-3-11; Bell 31, 6-3-11; Bell 32, 6-3-11; Alexander 11, 6-3-11; Alexander 12, 6-3-11; Alexander 10, 6-3-11; Bell 30, 6-3-11; Bell 33, 6-3-11; Bell 34, 6-3-11. Richfield Oil Co., Wardman 1, 6-3-11; Industrial 1, 6-3-11; Howard 1, 5-3-11. Universal Consolidated Oil Co., Blanchard 8, 6-3-11; Blanchard 7, 6-3-11. Shell Co., G. H. N. 13, 6-3-11; G. H. N. 14, 31-2-11; G. H. N. 16, 31-2-11. George F. Getty, Inc., S. F. S., 22, 6-3-11; S. F. S. 23, 6-3-11; S. F. S. 24, 6-3-11; S. F. S. 25, 6-3-11. The Texas Co., Baldwin 3, 6-3-11; Standlee 4, 6-3-11; Patterson 10, 6-3-11. George W. Ring No. 1, 6-3-11. Cypress Pet. Co., Wardman 1, 6-3-11. C. C. Julian, No. 14, 6-3-11. McKeon Drilling Co., York-Lockhart 1, 6-3-11; York-Lockhart 2, 6-3-11. C. C. Julian, No. 15, 6-3-11.

SAN LUIS OBISPO COUNTY—Dollar Oil Co., Phelps 1, 13-32-22.

SEAL BEACH—Marland Oil Co., Bixby 24, 2-5-12; Bixby 25, 11-5-12.

VENTURA—Associated Oil Co., McGonigle 6, 23-3-23.

LONG BEACH — Cannon-Jones Oil Co., Hall-Webber 1-A, 29-4-12. Delaney Pet. Corp., Irwin 1, 24-4-13. A. T. Jergins Synd., No. 4, 30-4-12. Richfield Oil Co., Simplex 3, 19-4-12. Shell Co., Dobyns 7, 30-4-12; Dobyns 8, 30-4-12. South Basin Oil Co., Nakamura 1, 30-4-12.

Guards Posted at New Well

Casper, Wyoming—Considerable mystery surrounds the oil field recently brought in by the Texas Production Company at Alkali Butte, near Riverton, Wyoming. Texas company has guards posted around the discovery well and is not admitting anyone to the rig. Well is located in sw¼ sec. 1-32n-95w. Hole is bottomed in the top of Muddy sand at 4000 ft. Estimated capacity of well is around 1000 barrels daily. Available storage of 3000 barrels has been filled with the well still drilling. Company has made contract with trucking company to haul the crude to railhead at Riverton from where it will ship to company's refinery at Casper.

Preparations for Salt Lake Gas Line

Casper, Wyoming — John McFayden, vice-president of the Ohio Oil Co. in charge of operations in the Rocky Mountain region and the Pacific coast, has returned to Casper from a trip to the home offices of the company at Findlay, Ohio, where meetings were held with the different interests behind the movement to lay a line for natural gas from Southern Wyoming to Salt Lake City, Utah. Another meeting of the interests will be held in Pittsburgh, September 24, when a separate organization will be effected to lay the line. Mr. McFayden states that much of the preliminary work has been done such as complete survey, blue prints, securing the right-of-way over part of the route and the ordering of material. It has been decided to extend the line 100 miles north of Salt Lake to take in Ogden and other towns with the northern terminal at Preston, Idaho. This will make the line about 300 miles long. The estimated cost of the enterprise is $20,000,000. Interests affiliated with the Ohio are the Lone Star Gas Company of Texas and the Crawford interests of Ohio.

Gas supply will come from Baxter Basin and Hiawatha Dome in southern Wyoming where there is about 1,000,000,000 cu. ft. of shut in gas at the present with half a dozen more wells drilling.

It has not been decided yet whether the laying of the line will be by contract or whether it will be laid by the Ohio's own organization.

Lieutenants J. E. Hamilton and **T. J. Kelley,** line officers in the United Stats Navy, were in Casper a week ago making an inspection of the oil fields in Central Wyoming, particularly Salt Creek and Teapot Dome. Both of these officers have recently completed a post graduate course in petroleum engineering at the University of Pittsburgh, and for several months have been making an inspecting tour of the fields in eastern states, the Gulf Coast, Mid-Continent, and the Rocky Mountain region.

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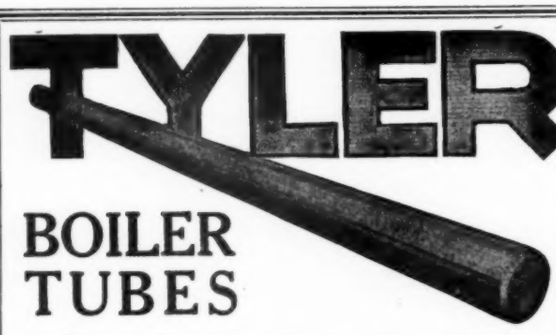

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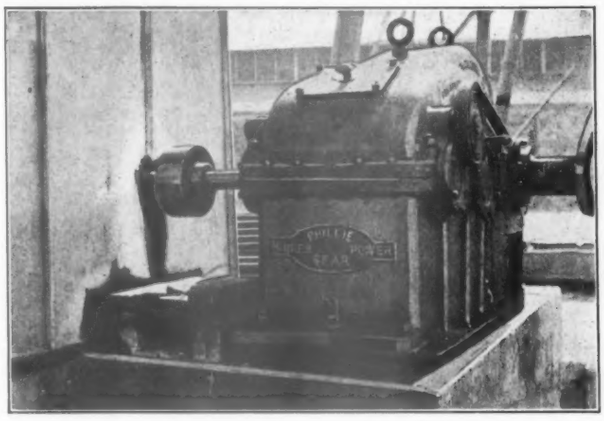

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WILDCATS FROM ALL SECTIONS

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
Completions		
HOWARD COUNTY—		
Gulf Prod. Co.'s Clay 2, ...	72	1897
GLASSCOCK COUNTY—		
Roxana Pet. Corp.'s Boston 1	*	3875
UPTON COUNTY—		
F. P. Zoch et al's Union-Murphy 1	*	2199
PECOS COUNTY—		
Cowboy Evans et al's Sarah Byrens 1	*	1435

ANDREWS COUNTY — Deep Rock Oil Co.'s Harris 1, elev 3173 ft, top salt 1705 ft, top lime 4005 ft, co 4410 ft after standing for 14 days with 200 ft oil in the hole.

BORDEN COUNTY—E. L. Doheny et al's Koonsman 1, dr 2105 ft.

BREWSTER COUNTY — Cowden-Cole et al's Jackson-Harmon 1-A, sd 1500 ft. Forest Oil Corp.'s Skinner 1, sd 1148 ft. Van McPhail et al's McIntyre 1, fsh 1750 ft. Reese & White's Kimball 1, sd 2009 ft. Clayton Williams et al's Poncey 1, rig.

COKE COUNTY—Lipan Oil Co.'s Rawlings 1, sd 2840 ft. Louisiana Oil & Refining Co.'s Powers 1, rig. Mid-Kansas' Lackey 1, lcn.

CONCHO COUNTY — Exploration Co.'s Hartgrove 2, rig. Kimberlin et al's Maloy 1, dr 580 ft. Sartain Oil Co.'s Evridge 1, sd 300 ft.

CRANE COUNTY—Church & Fields' University 3, dr 2710 ft. C. C. Duffey et al's Cowden 1, top salt 750 ft, sd 2705 ft. Gulf Prod. Co.'s Waddell 5, dr 328 ft. Evans-Anderson et al's State Bank Fee 1, elev 2463 ft, top salt 525 ft, no report.

CROCKETT COUNTY—T. W. Callahan et al's J. S. Todd 1, dr 481 ft. Hal Compton & Co.'s University 1, elev 2681 ft, top salt 1055 ft, top lime 2055 ft, fsh bailer 2062 ft, 250 ft oil in hole. W. W. Donnelly et al's Massie 1-A, sd 380 ft; Shannon-Middlesbuster 2 (Sec. 18) top salt 774 ft, sd 1676 ft; Shannon-Powell 1 (Sec. 42) sd 1175 ft. Fuhrman Pet. Corp.'s Padgett 1, fsh 460 ft. Renee Oil Co.'s Powell 1, elev 2692 ft, top salt 1100 ft, top lime 2070 ft, shot at 2672-92 ft, no results, sd to plug back to 2963 ft.

CULBERSON COUNTY—Deep Rock Oil Co. & Grihsam-Hunter Corp.'s Bettis 1, elev 2724 ft, shot at 1488 ft, no result, pulling cas to plug, 1488 ft. J. M. Hickey et al's C. O. Finley 1, sd 1429 ft. Scott & Dittman's Miller 1, sd for cas 1765 ft.

JEFF DAVIS COUNTY—Sam F. Means et al's J. Z. Means 1, no report.

DAWSON COUNTY—Magnolia Pet. Co.'s W. A. Jetter 1, rig.

EDWARDS COUNTY—Magnolia Pet. Co.'s Whitehead 2, dr 1544 ft. McMan Oil & Gas Co.'s Schreiner 1, no report.

EL PASO COUNTY—C. E. Sillix et al's Malone 1, stdz 7 sd 1010 ft.

FISHER COUNTY — Cranfill-Reynolds & Sun Oil Co.'s E. G. Young 1, dr 885 ft; J. A. Young 2, dr 275 ft; B. F. Willingham 1, dr 1672 ft. Mid-West Exploration Co.'s Decker 1 and 2, lcns. R. W. Rainey & Bill Little's Marberry 2, elev 1929 ft, top lime 2995 ft, re-running 6⅝-inch cas 3289 ft. Roeser-Pendleton & Landreth's Decker 1, sd 902 ft. Texas Unity Oil Co.'s Reddus 1, no report. Bickerstaff et al's J. W. McWhirter 1, no report.

GARZA COUNTY—Emerald Oil Co.'s Boren 3, elev 2353 ft, top salt 660 ft, top lime 1605 ft, sd for orders 4801 ft.

GLASSCOCK COUNTY—Eastland Oil Co. & White Eagle O. & R. Co.'s Coe 1, ur cas 2100 ft. Meriwether Oil Co.'s McDowell 2, elev 2522 ft, top salt 1000 ft, top lime 2510 ft, dr 3575 ft, hole full of sulphur water. World Oil Co.'s McDowell 1-B, elev 2521 ft, top salt 975 ft, sd 2360 ft. R. R. Perin's Hughes & Johnson 1, lcn.

HOWARD COUNTY—Amerada Pet. Corp. & Rycade Oil Corp.'s Stewart 1, elev 2779 ft, top lime 2240 ft, plugging back to 1500 ft. Bristow & Merrick's Hooks 8, dr 1616 ft; Dora Roberts 3, rig. J. S. Cosden & Co.'s Roberts 1-A, elev 2777 ft, swabbed 560 bbls, sd 3104 ft; Roberts 2-A, elev 2792 ft, plugging back to 3119 ft; Roberts 3-A, elev 2754 ft, swabbed 180 bbls, sd 3050 ft; Roberts 4-A, dr 1460 ft. W. W. Donnelly et al's Clay 1, elev 2674 ft, dr 2800 ft. Coyle-Concord Oil Co.'s Dora Roberts 1-A, set 8¼ cas 1600 ft. Cosden & Co., Inc., et al's Dora Roberts 1, rig. Dunagan & Fred Hyer's Clay 2, lcn. Evans Oil Co.'s Roberts 1, dr plug 3019 ft. Empire Gas & Fuel Co.'s Clay 1, lcn. F. H. E. Oil Co. & Moody Corp.'s Roberts 3-B, dr 1040 ft; 4-B, rig; 5-B, machine; Roberts 1-C, lcn; Roberts 3-E, lcn; Roberts 4-E, lcn; Roberts 5-E, lcn; Roberts 7-E, lcn; Roberts 8-E, lcn. Godley Oil & Gas Co.'s Hooks 7, cem 6⅝ cas 1732 ft. Gulf Prod. Co.'s Chalk 5, dr 1828 ft. Green O. & R. Co.'s Clay 2, lcn. L. C. Harrison et al's Dodge 1, dr 1030 ft. Laurel O. & G. Co.'s Reid 1, elev 2375 ft, top salt 965 ft, no report. Laurel & Cosden & Co.'s Roberts 5, cem 6⅝ cas 2935 ft; Roberts 7, putting on pump, 1400 ft. McGinley-Sigler Co. & Henshaw-Davis' Eason-Settles 1, elev 2708, top lime 1950 ft, flowed 30 bbls pinched, 2210 ft. Louisiana Oil & Ref. Co.'s Kloh & Rumsey 1, dk; Magnolia Pet. Co.'s O'Daniel 2, dr 3375 ft; Roberts 4, elev 2704 ft, fsh 3012 ft; Roberts 5, swabbed 77 bbls, 2705 ft; Roberts 8, elev 2729 ft, top lime 2045 ft, swabbed 300 bbls, fsh tools 2985 ft; Roberts 9, dr 2725 ft; Roberts 10, dr 1310 ft; Roberts 11, dr 1530 ft; Roberts 12, lcn; Roberts 13, cem 13-3/8 cas 258 ft; Roberts 14-15, lcns. Marland Prod. Co.'s Clay 1-G, prep to shoot, 1801 ft; Clay 8, dr 300 ft; Clay 9, lcn; Clay 2-G, lcn; Roberts 1, rig. Merrick & Lamp's Clay 5, dr 980 ft; Clay 5, lcn. Mid-West Expl. Co.'s Clay 1, no report. Schermerhorn Oil Co.'s Roberts 2, set 8¼ cas 2941 ft; Roberts 2-A, dr 1650 ft; Roberts 3, lcn. Pure Oil Co.'s Otis Chalk 6, cem 6⅝ cas 1614 ft. Sprague Oil Co.'s Roberts 1, dr 2990 ft; Roberts 2, machine. Sun Oil Co.'s Settles 3, dr 1370 ft; Settles 1, sd 2540 ft after swabbing 420 bbls in 4 hrs. Taylor-Link Oil Co.'s Kloh-Rumsey 1, dr 178 ft. Texon Oil & Land Co. & Marland Prod. Co.'s 2-A Settles, sd 2600 ft, swabbed 40 bbls 24 hrs; Settles 3-A, rig; Settles 4-A, lcn; Settles 5-A, set 10-inch cas 1324 ft. Ward Oil Co.'s Roberts 2, swabbed 159 bbls in 12 hrs, sanded up at 1394 ft.

HUDSPETH COUNTY—Western States Oil Co.'s Gardner-Moseley 1, sd 185 ft; S. W. Moore 1, sd 2240 ft.

IRION COUNTY — Empire Gas & Fuel Co.'s Sawyer 1, elev 2575 ft, top salt 835 ft, top lime 1765 ft, sd no report. Kimbrough & Tuel's Nutt 1, no report. Mertzon Oil Co.'s Roach 1, sd 1575 ft. Moore & Kennedy's Tankersley 1, elev 2283 ft, pumping 18 bbls oil per week, 1347 ft. Webb et al's Nutt 1, sd 2003 ft. West et al's Suggs 1, sd 1360 ft.

JONES COUNTY—Campbell et al's Dickinson 1, dr 2108 ft. E. P. Campbell et al's Berry 1, spudded and sd. Cowboy Evans et al's King 1, no report. Hines et al's J. F. Saunders 1, dr 935 ft. Hucony Gas Co. & Atkinson-Sandefer's Tiner 3, run 5-3/16 cas 2535 ft. Hurley Oil Co.'s Gunther 1, ur 6⅝ cas 2841 ft. McMan O. & G. Co.'s Tiner 1, sd 2556 ft. Marland Prod. Co.'s Marson 4, dr 2225 ft. Mook-Texas-Roesser-Pendleton & Landreth's McCright 1, ur cas 1685 ft. Pandem Oil Corp.'s Cox 1, no report. Phillips Pet. Co.'s Sharp 1, elev 1881 ft, cemented cas 3017 ft; J. C. Mason 4, rig. Roberts Oil Corp. & Cosden & Co.'s Grayson 4, dr 1518 ft. Roeser-Pendleton & Landreths' Grayson 2, dr 560 ft; Mrs. S. A. Higgs, no report. W. W. Zingery et al's Thomas 1, no report. Texas & Cosden's Carter 2, no report. Sinclair Oil & Gas Co.'s Bickley 1, rig. Stough et al's Willis 1, sd 1760 ft.

KENT COUNTY—Cosden & Co.'s Bilby 1, dr 1910 ft. Phillips Pet. Co.'s Sandell 1, ur 8¼ cas 3360 ft.

KING COUNTY—Humble's Pitchfork 1, no report. The Texas Co.'s Johnson 1, no report.

LOVING COUNTY—Lockhart Bros. Fee 1, co 4175 ft. Lockhart & Co.'s Hubbard 1, elev 2693 ft, top salt 708 ft, dr 4163 ft; Wheat & Ramsey 1, dr 265 ft; J. J. Wheat, sd 4212 ft; Allen 2, materials on ground. Hadlock Oil Co.'s Russell 2, elev 2678 ft, top black lime 4230 ft, sd 4395 ft.

MARTIN COUNTY — Phillips Pet. Co.'s Slaughter 1, elev 2726 ft, top salt 1685 ft, dr 4040 ft.

MENARD COUNTY—Moody Corp.'s Allison 1, elev 2053 ft, pulling cas to abandon 850 ft. Panhandle Ref Co. et al's Eckhardt 1, cem cas 2970 ft, 925 ft fluid in hole. Renfro et al's Davis 1, sd 925 ft.

MIDLAND COUNTY — C. P. Shelton et al's Kloh 1, dr 805 ft. O. H. Shoup et al's Parks 1, elev 2871 ft, top salt 1740 ft, dr 3350 ft.

MITCHELL COUNTY—E. P. Campbell et al's F. Pond 1, spudding. Boehn Drilling Co.'s Harry Hyman 1, sd 505 ft. Owen-Sloan Corp.'s G. M. Brown 1, top lime 1232 ft, sd. Teas & Wheeler's Radford 1, rig. Hucony Gas Co.'s Weicksel 1, spudding.

NOLAN COUNTY—Herbert Oil Co.'s Pepper 1, dr 1845 ft.

PECOS COUNTY — Anderson et al's University 1, sd 1880 ft, show oil 1879-80 ft. Alexander-Lyles et al's Sellman 1, top salt 814 ft, dr 1255 ft. Benedum & Trees' Corder 1-A, top lime 1840 ft, sd 1900 ft. Ditto Oil Co.'s Montgomery 1-A, sd 170 ft. Bob Elmore et al's M. Holmes 2, sd 2090 ft. Fuhrman Pet. Corp.'s Ewing 1, elev 2325 ft, top salt 685 ft, top lime 1973 ft, sd. J. W. Grant et al's W. W. Turney 1, elev 3005 ft, sd 3850 ft. Olean Pet. Corp.'s Harral 1, elev 3005 ft, top salt 845 ft, top lime 2540 ft, sd 3303 ft. Pecos Valley Oil Co.'s Fee 1, sd 885 ft. Phillips Pet. Co.'s Heyman-Nutt 1, elev 2943 ft, top lime 2085 ft, sd at 4395 ft, show oil 4376 ft. Roxana & Kirby Pet. Co.'s University 1, fsh 3580 ft. Schumaker et al's Williams 1, spudded and sd. Southern Crude Oil Pur. Co.'s Scharbauer 1, elev 2680 ft, sd 2960 ft. Transcontinental's University 1, elev 2552 ft, top lime 1035 ft dr 4095 ft. Vacuum Oil Co.'s Elsinore 1, elev 3554 ft, dr 4480 ft. P. R. Whonlich & Co.'s Arnold 1, dr 990 ft. World Oil Co.'s Kloh 1, elev 2810 ft, sd 3105 ft.

PRESIDIO COUNTY — Empire et al's

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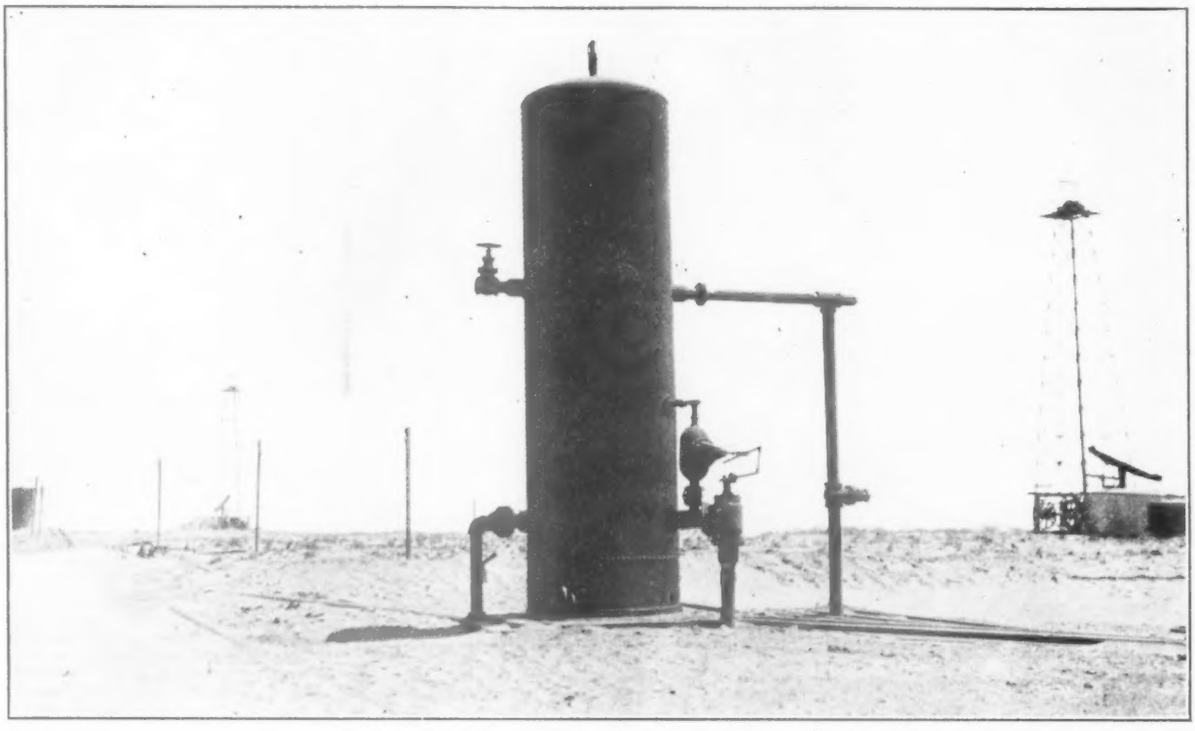

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Tootle 1, sd 75 ft. L. C. Brite et al's Fee 1, dr 1000 ft.

REAGAN COUNTY—Empire Gas & Fuel Co.'s Sawyer 1-A, rig.

REEVES COUNTY—E. W. Brooks et al's Eddins 1, no report. Eastland-Vacuum and Geo. Lyles' Campbell 1, dr 3182 ft. Exploration Co. et al's Kinney 1, elev 2847 ft, sd 2900 ft. McRobie et al's Bell 1, sd 500 ft.

RUNNELS COUNTY—Agnew & Sons' Russell 1, fsh 2600 ft. Gibson-Johnson et al's Rainwater 1, sd 2505 ft. Kennedy et al's Talley 1, sd 3007 ft. Nourse & Tilton's Cramer 1, rig. Pure Oil Co.'s Giesecke 1, dr 2210 ft. Vacuum Oil Co.'s McMillan 3, spudding.

SCHLEICHER COUNTY—Long Bros. et al's Williams 1, sd 276 ft.

SCURRY COUNTY—R. B. Pender et al's Davis 1, rig. Landreth Prod. Co.'s Wm. Hillner 1, rig. J. B. Mims et al's Koonsman 1, spudded and sd.

STERLING COUNTY—F. & G. Oil Co.'s W. L. Foster 1, spudded and sd. F. P. Zoch et al's Neal Reid 1, dr 1855 ft.

STONEWALL COUNTY — Henshaw Oil Corp.'s Moore 1, no report. Sun Oil Co.'s Rayner 1, spudding.

SUTTON COUNTY — Phillips Pet. Co.'s Holman 1, dr 4090 ft.

TAYLOR COUNTY—Burnham et al's Amyx 1, spudded and sd. Grisham-Hunter's Stevens 1, rig.

TERRELL COUNTY—Big Bend Oil Corp.'s Bassett 1, spudded and sd. Champlin Ref. Co.'s Carter 1, elev 2884 ft, co 3552 ft. Milham Corp.'s Bassett 1, elev 2270 ft, dr 4070 ft. Keck-Pecos Oil Trust's Hamilton 1, sd 1600 ft.

UPTON COUNTY — Cordova Oil Corp.'s Fee 1, dr 2165 ft, sulphur water in hole.

VAL VERDE COUNTY — Val Vert Oil Corp.'s Bassett 1-A, sd 210 ft.

WARD COUNTY — Denver Prod. & Ref. Co.'s Cherokee Fee 1, ur cas 2847 ft. E. B. Lovelance et al's J. C. Redman 1, materials. Rector Oil Co. et al's M. L. Johnson 1, spudded and sd. Shipley et al's Hayslett 1, sd 900 ft. Prairie Oil & Gas Co.'s J. Sealey 1, rigging up with cable tools.

WINKLER COUNTY—V. T. Bolin & Co.'s Brown 1, elev 2847 ft, top salt 1302 ft, sd 3211 ft, swabbed 7, pumped 44 bbls in past six days; Brown 2, rigged up. Empire Gas & Fuel Co.'s Daugherty 1, cem cas 2694 ft. Arizona Mining & Engineering Co.'s Hendrick 1, top salt 1390 ft, top lime 2607 ft, sd with 500 ft fluid in hole, may shoot. Roxana & Llano Oil Co.'s Scarborough 3, elev 2939 ft, top salt 1280 ft, top lime 2972 ft (corrected) sd 3455 ft, 1200 ft salt water in hole. Sid Richardson & White Eagle O. & R. Co.'s O'Brien Stockton 1, elev 2729 ft, run 5-3/16 cas with hook wall packer, bottom joint perforated; show oil at 2740 ft, show gas 2765 ft, more oil and gas 2805-15 ft, hole bridged 200 ft off bottom, makes bailer of 31.6 gravity oil every two hrs through bridge. T. P. Coal & Oil Co.'s Daugherty 1, elev 2881 ft, top salt 1460 ft, top lime 2894 ft, prep. to test at 3200 ft.

TEXAS GULF COAST

Completions

Company, Well and Location	Initial Production Bbls.	Depth
FORT BEND COUNTY—		
Sun Oil Co., E. C. Farmer 3, Boling.	*	3825
Gulf, E. C. Farmer 1, Boling	1000	3450
Humble, Sugarland Industries 2, (deepened)	53	3592
AUSTIN COUNTY—		
Humble, Sanders 1, Raccoon Bend No. 4		930
HARDIN COUNTY—		
The Texas Co., Cruse 1, Batson....	*	3759
WASHINGTON COUNTY—		
Sun Oil Co., Schirmer 1, 12 mi n Brenham	*	4270

AUSTIN COUNTY—Humble's Sanders 1, Raccoon Bend, completed for 4,000,000 ft gas; Gotosky 2 and Gotosky 3, Raccoon Bend, flowing 1710 bbls. net oil per day; Bracey 1, Raccoon Bend, flowing 254 bbls oil a day; Grawunder B-1, Raccoon Bend, lcn; Urban 2, Raccoon Bend, bldg drk; Kearns 1, Raccoon Bend, dr 301 ft shale. L. H. Weadock's Ward 1, H. & T. C. sur 181, sd 2260 ft. Gulf's Jackson 1, San Felipe, dr 140 ft.

BRAZORIA COUNTY—Roxana's Poole A-2, Allen Dome, dr 4800 ft; Allen 5, Allen Dome, moving in. Moody Corp.'s Jamison 1 Angleton, dr 3700 ft gbo. D. J. Harrison's Perry 1, Stratton Ridge, dr 2650 ft shale. Rucks et al's Muldoon 3, n Mt. Letheridge, sd 990 ft.

CHAMBERS COUNTY—Pure's Old River 1, Lost Lake, dr 4339 ft; Lost Lake 1, Lost Lake, cleaning hole, td 2994 ft; Lost River 2, Lost Lake Dome, bldg drk; Trinity River 1, Lost Lake dome, drk; Lost River Lake 1, Lost Lake, drk; Cut-off Bayou 1, Lost Lake, Drk. R. L. Bartlett's Fisher 1, Barbers Hill, sd 2160 ft.

COLORADO COUNTY—Rich Oil Corp.'s Wallace 1, 1½ mi n Alleyton, sd 1375 ft. United States O. & G. Co.'s Swank 1, 6 mi s Rock Island, dr 3685 ft shale.

FORT BEND COUNTY—Sun's E. C. Farmer 3, Boling, abn at 3825 ft. Gulf's E. C. Farmer 1, Boling, completed for 1000 bbls oil at 3800 ft. Gulf's Trone 9, Long Point, dr 2050 ft lime; Wolf 11, Long Point, ru; Moore 17, Moore's Field, dr 1600 ft shale. Humble's Dew 1, Sugarland, drk; Camp 1, Sugarland, dr 3140 ft shale; Sugarland Industries 3, Sugarland, fsh 3576 ft; Deathridge 1, Sugarland, dr 4040 ft hard sand; Sugarland Industries 2, Sugarland, flowing 53 bbls oil per day from 3592 ft. J. H. Diehl's Armstrong 1, 2 mi e Boling, sd 475 ft. The Texas Co.'s Bushnell 1, Boling, dr 3178 ft shale.

GALVESTON COUNTY—Long et al's Irvin & Bishop 1, 2 mi s Dickinson, sd 2675 ft.

HARDIN COUNTY—Chappel Hill Oil Co.'s Hale 1, 5 mi nw Sour Lake, sd 1810 ft. Guedry Drlg. Co.'s Guedry 1, 3 mi s Batson, drk. The Texas Co.'s Cruse 1, Batson, abn at 3795 ft.

HARRIS COUNTY—Torsen et al's Stewart 1, 4 mi sw Genoa, ru. J. A. Hautier's Grouse 1, Greens Bayou, sd 2900 ft. Hunt et al's Lobit 1, 4 mi n Goose Creek, dr 2145 ft shale. Humble's Warren 4, Hockley, dr 4216 ft hard rock; Minnetex 1, Mykawa, dr 2100 ft packed sand. Cedar Bayou Oil Co.'s Johnson 1, 8 mi n Goose Creek, dr 2965 ft gbo. S. & M. Oil Co.'s Cook 1, 2 mi ne Crosby, dr 4052 ft water sand. Mrs. Baldwin et al's Kitsman 1, 2 mi n Cypress, sd

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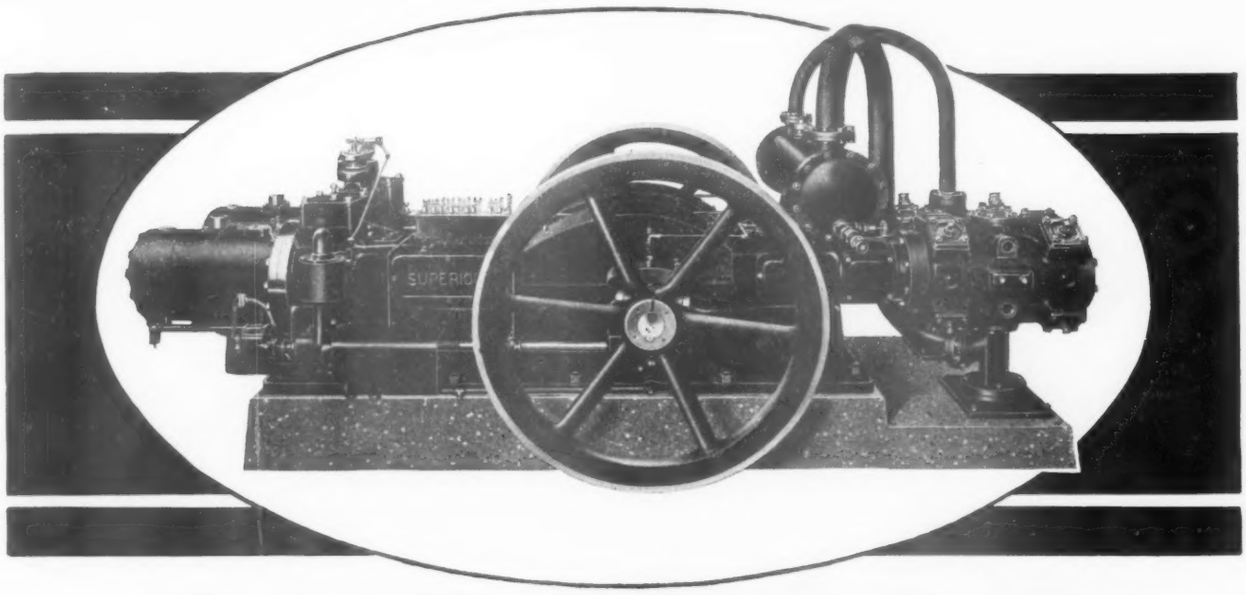

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1925 ft. Brains et al's Lentze 1, 4 mi s Tom Ball, sd 1120 ft.

JEFFERSON COUNTY—Deep Test Oil Co.'s McFaddin 1, 4 mi ne Spindle Top, sd 2175 ft. So. Spindle Top O. & Dev. Co.'s Young 1, 1 mi w Nederland, sd 3425 ft. A. M. Deems' Mashman 2, 1 mi s Voth, lcn. The Texas Co.'s Gladys City 1, Spindle Top, swabbing a little oil. Beaumont Oil Co.'s Tyrrell 1, 2 mi w Brooks, drk.

LIBERTY COUNTY—Barlow et al's Minchcliff 1, 2½ mi ne Cleveland, sd 2215 ft. Kown et al's Campbell 1, 6 mi s Cleveland, ru. Big Dome Interests' Finley 2, 3 mi nw Hardin, drk; Finley 1, 3 mi nw Hardin, dr gbo 3500 ft. The Texas Co.'s Davis 1, Davis Hill, drk. Humble's Sterling 2, Moss Bluff, r 2008 ft; Welder 8, S. Dayton, will deepen from 3709 ft. Sun's Kyle 1, Moss Bluff, dr 2065 ft sand rock.

MATAGORDA COUNTY—Matagorda County Dev. Co.'s Hawkins 1, Bay City sd 1985 ft. Dr. P. S. Griffith's Culver 1, e Citrus Grove, dr 2650 ft gbo; Baer 1, 1¼ mi n Gulf Hill, dr 1760 ft gbo.

WASHINGTON COUNTY—Sun Oil Co.'s Schirmer 1, 12 mi n Brenham, abn at 4270 ft; Crote 1, Brenham district, ru.

SOUTHWEST TEXAS

Completions

Company, Well and Location		Initial Production Bbls.	Depth
CALDWELL COUNTY—			
Roxana Pet. Corp., Schaffer 1, Jolly dist.		75	1290
Starcke 2, Jolly dist.		300	1280
Starcke 3, Jolly dist.		360	1315
JIM HOGG COUNTY—			
Edward St. Albans, Holbein 4, blk 34, share 3, Las Animas grant	*		2200
STARR COUNTY—			
The Texas Co., Guerra 1, near Roma	*		4820
WEBB COUNTY—			
Cole Pet. Co., Benavides 64, Cole field		60	2340

CALDWELL COUNTY—Radcliff et al's Briscoe 1, 3 mi ne Luling, td 3025 ft. Detex Oil Co.'s August 1, Branyon dist., td 3065 ft. Townsend & Whittington's Harper 1, lcn. Luling O. & G. Co.'s Carter 2, sd 2865 ft; Carter 3, lcn. Roxana Pet. Corp.'s Jolly 4, 2 mi w Lockhart, set cas at 1280 ft; Jolly B-1, 2 mi w Lockhart, lcn. Schaffer 1, 2 mi w Lockhart, pumping est. 75 bbls; Starcke 1, 2 mi w Lockhart, sd 1275 ft; Starcke 2, 2 mi w Lockhart, completed at 1280 ft for 300 bbls; Starcke 3, 2 mi w Lockhart, completed at 1315 ft for 360 bbls initial; Jolly A-4, 2 mi w Lockhart, lcn. T. C. Hadley's Wilson 1, dr 2420 ft shale. Lu Tex Oil Co.'s Davis 2, installing pumping equipment, td 2330 ft. Suttle et al's Malone 1, dr 2185 ft. The Texas Co.'s Branyon B-1, near Lockhart, ru. M. R. Armstrong et al's Martin 1, sd 1455 ft.

DUVAL COUNTY—National Oil Co.'s Ball 1, sd 3990 ft.

HIDALGO COUNTY—Dale Smith's Daskan 1, sd 3780 ft. Queen City O. & G. Co.'s American Land & Irrig. Co. 2, 3 mi n Mercedes, sd 700 ft.

JACKSON COUNTY—The Texas Co.'s Moore 1, Edna, dr 1950 ft gbo.

JIM HOGG COUNTY—Edw. St. Albans' Holbein 4, blk 34, share 3, Las Animas grant, abn at 2200 ft.

JIM WELLS COUNTY—Cushing Oil Co.'s Perez 2, 3 mi n Alice, sd 100 ft.

KINNEY COUNTY—Stephens et al's Clamp 1, dr 1800 ft.

MAVERICK COUNTY—Rycade Oil Corp.'s Chittam 2, Eagle Pass, dr 7240 ft; Sullivan 3, Eagle Pass, dr 2500 ft lime. Ryan Consolidated's India Land Co. 1, 24 mi se Eagle Pass, trying to sdtrk at 4325 ft, td 4590 ft.

NUECES COUNTY—May et al's Gallagher 1, 12 mi w Corpus Christi, coring at 1525 ft.

STARR COUNTY—The Texas Co.'s Guerra 1, near Roma, abn at 4820 ft.

VAL VERDE COUNTY—Thraves et al's Wilson 1, sd 1125 ft. Valvert Oil Co.'s Bassett A-1, td 725 ft.

SOUTH LOUISIANA

Company, Well and Location		Initial Production Bbls.	Depth
ASCENSION PARISH—			
Triumph Oil Corp., J. D. Lacey etal 1, 1½ mi se Sorrento	*		3900
CAMERON PARISH—			
Yount-Lee Oil Co., State Land 14, Kelso Bayou	*		3730
State Land 16, Kelso Bayou	*		3910
Calcasieu Oil Co., Magnolia & Union Sulphur Co., Watkins 11, Kelso Bayou	*		3660

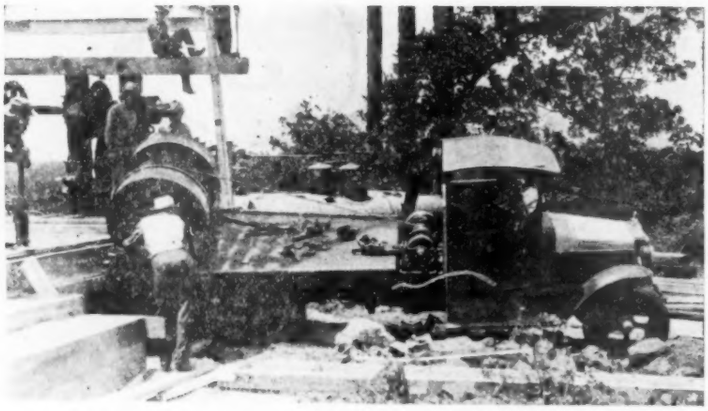
ACADIA PARISH—E. F. Simms' Clement 1, Jennings, set and cem, cas at 3300 ft, td 3865 ft; Clement 2, Jennings, drk; Grace-Von Schoeler 1, Jennings, drk.

ASCENSION PARISH—Gulf's United Lands Co. 9, Sorrento, dr 1400 ft rock. Triumph Oil Corp.'s Lacey et al 1, 1½ mi se Sorrento, abn 300 ft; Lacey et al 2, lcn. Baton Rouge Pet. Co.'s Liotta 1, sd 100 ft.

CALCASIEU PARISH—Union Sulphur Co.'s Fee 729, Sulphur, drk; Fee 728, Sulphur, dr 5865 ft shale and lime; Fee 730, Sulphur, set cas at 2850 ft; Kelly 1, Sulphur, dr 5250 ft sand; Fee 731, Sulphur, dr 2800 ft rock; Fee 732, Sulphur, dr 1785 ft lime rock; Fee 733, Sulphur, ru; Fee 734, Sulphur, drk. Lehay et al's Jones 2, dr 1915 ft gbo.

CAMERON PARISH—Pure Oil Co.'s Yount-Lee 2, Sweet Lake, waiting on orders; Yount-Lee 3, Sweet Lake, cleaning junk out of hole, will probably abn; Yount-Lee 4, Sweet Lake, flowing 425 bbls on air; Yount-Lee 5, Sweet Lake, flowing 3125 bbls; Yount-Lee 6, Sweet Lake, dr 3736 ft shale. La. Land & Explo. Co.'s Calcasieu Lake B-3, lcn; Calcasieu Lake A-2. Calcasieu Lake, cap rock 2085 ft. Calcasieu Oil Co., Magnolia Pet. Co., and Union Sulphur Co.'s Watkins 11, Kelso Bayou, abn at 3660 ft; Watkins 9, Kelso Bayou, dr 3938 ft; Doiron 3, Kelso Bayou, prep to pump; Doiron 4, drk; Valery 3, Kelso Bayou, bldg drk. Yount-Lee Oil Co.'s State Land 14,

MEAD-MORRISON



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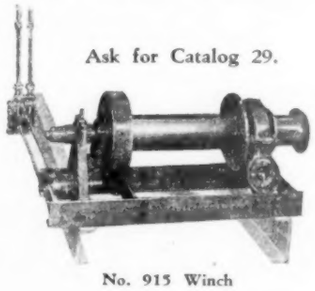

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It does not require setting up tight with a wrench to hold its pressure; it will adjust itself to worn rods. This packing is guaranteed not to score rods.

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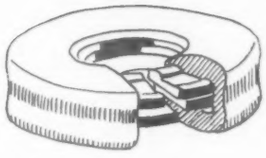
The four metallic inserts shown in the above photograph are seated around the rod in a perfect, self adjusted circle. The rubber housing is next to the gland. The soft metallic inserts next to the rod make a perfect packing. In ordering Switzer Rubber Crown Metallic Packing, be sure to give us your rod size and gland dimensions.

Any further information will be gladly given on request.



This drawing shows the placing of the four metallic inserts in the rubber crown, which when under pressure makes an absolute liquid and air tight packing which positively prevents the least escapage.

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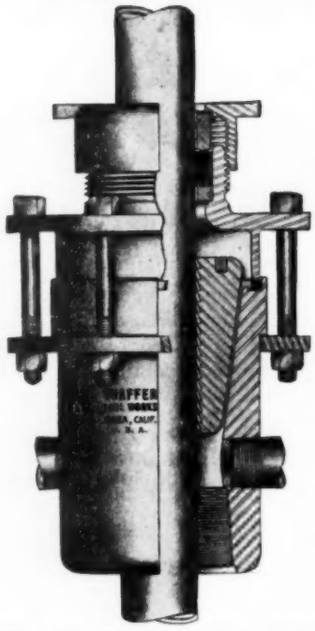

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Packed in Steel-Bound Crates for Export

MADE OF KEYSTONE COPPER STEEL

MALONEY

Kelso Bayou, abn in salt at 3730 ft; State Land 15, Kelso Bayou, lcn; State Land 16, Kelso Bayou, abn in salt at 3910 ft. State Land 17, Kelso Bayou, lcn; State Land 18, Kelso Bayou, lcn; Roxana's Watkins 3, Black Bayou dome, ru; Watkins 4, Black Bayou, ru.

IBERIA PARISH—La. Land & Explo. Co.'s Avery Island 2, dr 2025 ft sand; Vermilion Bay A-3, lcn. Gulf's State Z-5, Loreauville, dr 1000 ft. La. Oil & Gas Co.'s Bernard 1, New Iberia, sdtrk 2100 ft.

IBERVILLE PARISH—Roxana's Wilbert 2, White Castle, dr 3875 ft sand and shale. Standard of La.'s Wilbert 1, White Castle, dr 1000 ft; Schwing 1, drk.

LA FOURCHE PARISH—Gulf's Stark et al 5, Thibodaux, fsh 1130 ft; Stark et al 6, Thibodaux, ru.

PLAQUEMINE PARISH—Gusher Bill O. & G. Co.'s Park Plantation 1, tested salt water at 2670 ft, now standing.

ST. LANDRY PARISH—A. E. Borsum et al's Brown 1, sd 700 ft.

St. MARTIN PARISH—Rycade's Bayou Boullion 3, dr 2550 ft shale; State 2, Bayou Boullion dome, dr 2274 ft hard sand; Martin 1, Bayou Boullion dome, td 4883, mixing mud; Yount-Lee Oil Co.'s Louisiana Pet. Co. 2, Anse la Butte, dr 4540 ft cap rock. Bowie O. & G. Co.'s Begnaud 4, Anse la Butte, trying to clean out. A. G. Broussard's Bergeron 2, Anse la Butte, standing 1300 ft. Ohio Oil Co.'s Martin et al 3, Hager dome, ru; Burke 2, Hager dome, sd 1125 ft.

WEST BATON ROUGE PARISH—Grosse Tete O. & G. Co.'s Wilbert 1, dr 1700 ft.

WEST FELICIANA PARISH—Foster & Robertson's Raccourci 1, sd.

NORTH LOUISIANA

Completion

Company, Well and Location—	Initial Production Bbls.	Depth
Calvin Oil Co., L. & A. Oil Co. 2, 9-11-4w	*	1702

BIENVILLE PARISH—S. P. Borden, Tr.'s L. & A. Oil Co. 2, 1-15-8w, sd 1982 ft. Baca Drilling Co.'s State 1, 16-16-10w, lcn.

BOSSIER PARISH—Bruten et al's Allbritton & Douglas 1, 1-22-14, dr 2650 ft. Ark. Nat. Gas Corp.'s Wilkerson 1, 5-22-11, tested salt water 3068 ft, arr to deepen. Doern et al's Bolinger 1, 9-22-11, sd 4317 ft. Wm. Gross' A. Stewart 1, 15-18-12, milling collapsed casing 3000 ft, td 3077 ft. C. W. Jones' Meyer 1, 36-16-11, fsh 2575 ft. Palmer Corp.'s Jeter 1, 24-17-12, dr 877 ft.

CADDO PARISH—Tubbs et al's Hines 1, 9-14-16, sd 2930 ft. Warren & Carruthers' Berry 1, 26-15-15, sd 1500 ft. Gulf Ref. Co.'s Attaway 1, 1-18-15, dr 2565 ft. Haynes Bros.' La. Livestock 3, 8-19-16, dr 2295 ft.

CATAHOULA PARISH—Lochnager O. & G. Co.'s Taliaferro 1, 26-9-6e, sd 900 ft. Texas Co.'s Tensas Delta Ld. Co. B-1, dr 206 ft.

CLAIBORNE PARISH—C. F. Lue's Taylor 1, 29-22-6, dk. Dixie Oil Co.'s Gilbert 1, 27-21-5w, dk.

DE SOTO PARISH—R. O. Roy's Whittaker 1, 4-13-13, repairing dk, 2450 ft. Fuller 1, 6-13-13, tested 20 million ft gas, sd waiting orders 2827 ft. Ruesdale et al's Nabors 1, 6-12-11, sd 2430 ft. Louisiana Pub. Utilities Co.'s Clanton 1, 14-12-12, dr 883 ft. Benson O. & G. Co.'s Jackson 1, 3-10-13, rig up.

EAST CARROLL PARISH — Palmer Corp.'s Carroll Land Co. 1, 21-19-11, dr 1475 ft. Hamley 1, 27-20-11, fsh 2923 ft.

MADISON PARISH — Mid-American Pet. Co.'s Yerger 2, 51-16-4e, sd 285 ft.

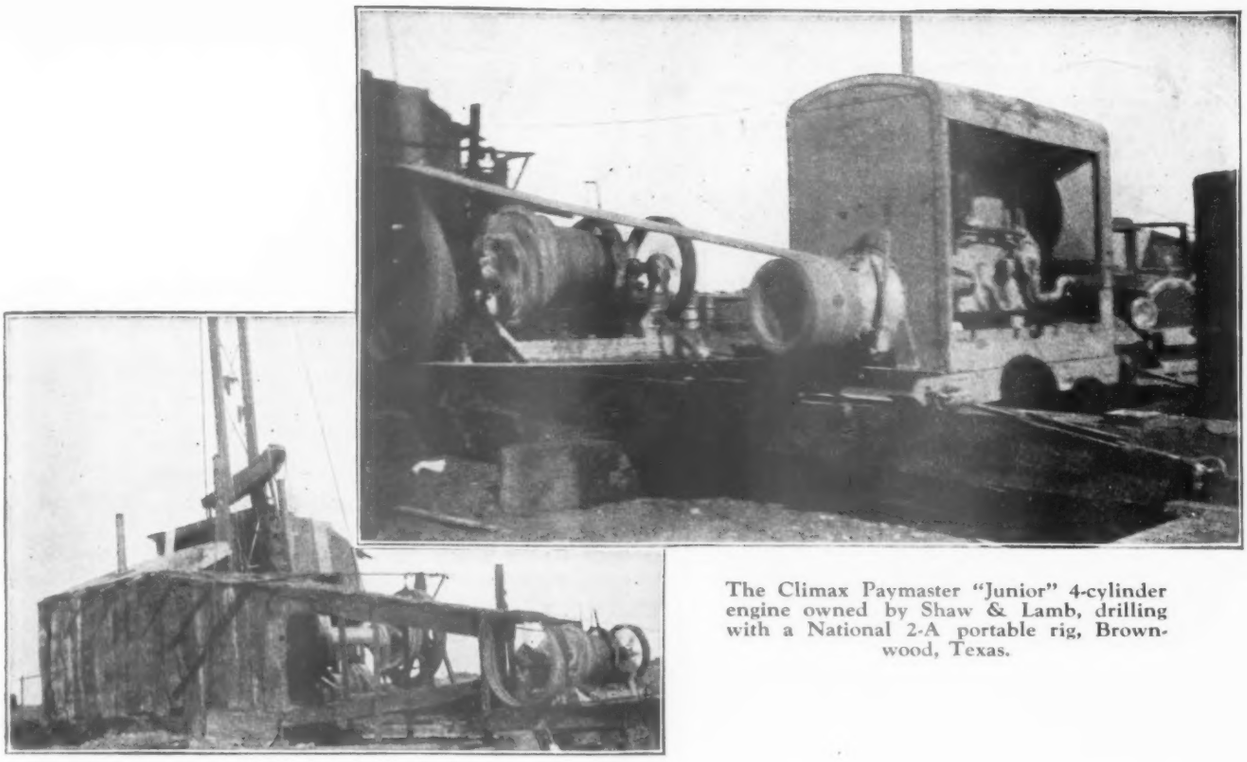
MOREHOUSE PARISH — Gulf Ref. Co.'s Chess Wymond 1-A, 7-18-16, dr 3444 ft. Texas Co.'s Huff 1, 36-23-7, dr 3318 ft. Meyers 1, 15-22-7, waiting cement set 2939 ft. Woodley Pet. Co.'s Bomita Lbr. Co. 1, 3-22-9, dr 512 ft. Shaffer O. & R. Co.'s Louisville Cooperage 1, 11-22-8e, dr 1565 ft. United Carbon Co.'s Bastrop 1, 18-21-6, sd 3017 ft.

NATCHITOCHES PARISH—Robeline O. & G. Co.'s Cassady 1, 7-8-9, sd 1250 ft.

RAPIDES PARISH — G. E. Silbertson's Willemach 3, 13-5n-4w, sd 2250 ft. Glenmore Pet. Co.'s Fee 1, 1-2n-2w, sd 3850 ft.

RICHLAND PARISH—Ruston Drilling Co.'s Etheridge 1, 28-17-6e, lcn.

SABINE PARISH—W. G. Doern et al's Pickering 1, 17-4-11, dr 3700 ft. L. M. Emlet's Bowman-Hicks 7, 14-7-14w, temp abn 4008 ft. Sabine Lbr. Co.'s 1, 8-7-13, dk. Plymouth Oil



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Say you saw it in The OIL WEEKLY

Co.'s Logan A-2, 23-10-13, tested 150,000 ft gas at 4263 ft, dr 4313 (formerly carried as A. F. Halliday's well.) Texas Co.'s Hamlin 1, 28-10-13, tested 132,000 feet gas at 3682 ft, coring 3682 ft.

TENSAS PARISH—Enochs et al's Curry 1, 39-11-12, dr 2418 ft. W. L. Brock, Tr.'s Curry 2, 39-11-12, rig up.

WINN PARISH—Calvin Oil Co.'s L. & A. Oil Co. 2, 9-11-4w, dry, abn 1702 ft.

Cook 1, 2-22-11, waiting standard rig 900, ft oil in hole, td 2711 ft. W. P. Bond's 1, 5-22-9, lcn. M. M. Branton's 1, 5-22-9, lcn.

UNION PARISH — Carter & Wingfield's Clark 1-A, 7-23-1e, lcn. Clark A-2, 7-23-1e, lcn. Hudson 2, 7-23-1e, sd 2190 ft. Security Trust 1, 6-23-1e, dr 1840 ft. Security Trust 2, 7-23-1e, dk pattern. Jones & Mullins' McLeod 1, 13-19-1e, rig up. R. W. Rhodes' Upshaw 1, 14-23-2w, dk.

EAST TEXAS

CASS COUNTY—
Davis & Pigg, John Burleson 1, Young sur . . . . . * 2739

CASS COUNTY—Davis & Pigg's Ed Lambert 1, Wm. Lambert sur, rigging up.

SHELBY COUNTY — Chapparal Oil Co.'s Holt 2, Moore sur, derrick. Gulf Ref. Co.'s Pickering 1, Harvey sur, dr 1145 ft.

ARKANSAS

CHICOT COUNTY—
S. D. Hunter's Lytle 1, 9-13-3. . . . . * 3128

UNION COUNTY—
H. L. Hunt's Dopson 1, 3-19-12. . . . * 3307
J. O. Moore's Pagan 1, 18-18-11. . . . * 3305

ASHLEY COUNTY — Atlantic Oil Prod. Co.'s Moffatt 1, 28-16-8, sd 643 ft. C. E. Harris et al's Holmes 1, 9-17-16, dr 151 ft.

BRADLEY COUNTY — Ohio Oil Co.'s Southern Lbr. Co. 1, 15-16-10, dr 3005 ft. Hurley et al's Southern Lbr. Co. 1, 26-15-10, sd 21 ft.

CLARK COUNTY—McKenzie Oil Co.'s Eakins 1, 9-11-19, sd 1700 ft. William Henry, Trustee's Clark 1, sd 1385 ft.

CALHOUN COUNTY—Phillips Pet. Co.'s Ark. Land & Timber 1, 29-16-12, dk pattern. Amerada Pet. Co.'s Matlock 1, 10-12-13, dk.

CHICOT COUNTY—Texas Co.'s Hammond 1, 23-17-2, dr 2758 ft. S. D. Hunter's Lytle 1, 9-13-3, junked aband 3128 ft. W. S. Smith's Meyer 1, 14-19-2, sd 850 ft. J. C. Marcum's De Yembert 1, 5-19-4, reaming 1292 ft. Joe Crawford's Cashion 1, 14-19-2, sd 1550 ft. Texas Co.'s Gay 1, 33?16-14, dr 2793 ft.

COLUMBIA COUNTY—G. W. Dawley et al's Fullenwider & Kitchen 1, 12-17-22, sd 2847 ft.

CLEVELAND COUNTY—Ark. Nat. Gas Corp.'s T. J. Pate 1, 4-9-11, dr 624 ft.

DALLAS COUNTY—Robert H. Dedman's Hillman 1, 20-10-13, sd 1145 ft.

FAULKNER COUNTY—Gold Creek O. & G. Co.'s Stermer 1, 17-4-13, sd 3462 ft.

GARLAND COUNTY—H. H. Given's Garret 1, 1-3-19w, temp aban 2800 ft.

JOHNSON COUNTY — Ark. Nat. Gas Corp.'s Bynum 1, 13-10-24, dr 2081 ft. O. L. Hudson 1, 14-10-24, dr 1085 ft. Kerwin 1, 16-10-24, dr 2730 ft. Houston 1, 14-10-24, dr 90 ft.

LINCOLN COUNTY— Pine Prairie O. & G. Co.'s Carter 1, 33-10-6, sd 2126 ft.

LOGAN COUNTY—Ark. Nat. Gas Corp.'s W. H. Parks 1, dr 2185 ft.

OUACHITA COUNTY—Timberlake et al's Carnes 1, 27-13-17, sd 2539 ft. McDonald Bros.' Wilson 1, 25-15-18, dk pattern.

UNION COUNTY—Clark, Trustee's Dumas 1, 8-17-16, tested hole full salt water thru drill stem 3111 to 3120 ft dr 3255 ft. McDonald Bros.' Mayfield 1, dr 230 ft. R. J. McMurray's Hale 1, 23-19-15, dr 3126 ft. Rice et al's Heinman & Meyers A-1, 23-18-16, sd 1180 ft. Stark et al's Powell 1, 35-18-16, dk. H. L. Hunt's Dopson 1, 3-19-12, dry & abn 3307 ft. J. O. Moore's Pagan 1, 18-18-11, salt water abn 3305 ft. Imperial O. & G. Co.'s Goodwin 1, 26-17-16, sd 3387 ft. E. M. Jones et al's Stegall B-2, 10-18-14, has 100 ft oil in hole with 25 ft salt water sd waiting orders 2264 ft. Grimes Bros.' Hill 2, 7-18-14, rig up. Tate & Morefield's W. W. Smith 1, 6-17-13, sd 1420 ft. H. L. Hunt, Dykes 1, 21-18-12, rig up to deepen at 3202 ft.

Roxana Has New Test for Allen Dome

Houston.—Roxana Petroleum Corporation has made location for a new test at Allen Dome, Brazoria County; the Allen 5. Late last week material was being moved in for a derrick foundation.

Roxana is the only operator in the area, and has already developed some production there, although in small quantity and from more than the usual depth of Gulf Coast fields. The Randon 1, most recently completed of the company's wells there, according to a recent report, produced 92 barrels of fluid in a day, including 71 barrels net oil and 21 barrels b.s. and water.

OKLAHOMA

WOODS COUNTY—T 28n, R 18w, Sec. 11, George Vincent et al's Freedom 1, C SW; ponds.

HARPER COUNTY—T 27n, R 21w, Sec. 24, A. F. Kpisch Oil Co.'s Selman 1, NEc SE; spudded & sd.

WOODS COUNTY—T 27n, R 15w, Sec. 20, Sooner State Oil Co. & E. R. Black's Marcum 1, CSW; spudded & sd.

GRANT COUNTY—T 27n, R 5w, Sec. 18, J. W. Bailey et al's No. 1 Custard, C SE, sand 4878-96 ft, small show oil Fish job 4989 ft. Drilling 4990. T 26n, R 4w, Sec. 34, Sooner State Oil Co.'s Royce 1, SWc NW, sd 550 ft.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent et al's McNeal 1, NWc NE, sd 2795 ft.

HARPER COUNTY—T 25n, R 22w, Sec. 14, Hoffer Oil Co.,'s Cooper 1, NWc SE, sd 4182 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22,

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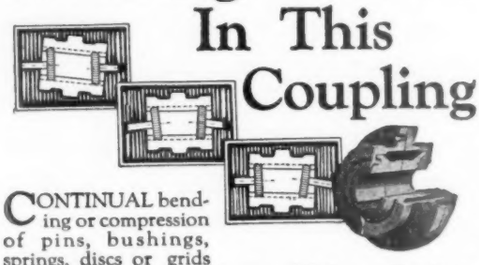

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In Fast's design, two spur gears, one on each shaft end, are completely and continuously meshed in oil with the internal gears of a floating sleeve. The shafts and sleeve turn noiselessly as one unit, allowing free angular and lateral movement. Oil between the gear teeth, under high centrifugal pressure, carries the load.

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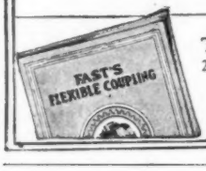
—Self-Aligning—



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Stanley's points are all good. It has tremendous strength; its working ability is unaffected by heat and cold, oil, dampness or dryness; it gives two or three times the service of average cheaper belting; is extremely flexible and resilient but has very slight stretch; there is no ply separation—no bootleg; the edges are protected by a special selvage; there is no deterioration in storage.

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TRIBAL OSAGE OIL LEASES AT PUBLIC AUCTION, SEPTEMBER 27, 1928, BY UNITED STATES GOVERNMENT

September 27, 1928, at Pawhuska, Oklahoma, about 20,000 acres will be offered for oil leases in quarter section tracts. Bids will be for bonus in addition to royalties, 25% payable on day of sale, balance in three annual instalments, with acceptable security. Within advertised area there are about 9,875 wells producing from one barrel to 400 barrels each, the total daily production for June, 1927, being about 53,000 barrels; also, there are about 40 wells drilling. All lands are now leased separately for gas. Blue print maps of area advertised, showing tracts producing oil or gas, can be had for fifty cents each, also logs of producing oil or gas wells for twenty-five cents each well. Write U. S. Superintendent, Osage Agency, Pawhuska, Oklahoma, for maps, logs or other information.

HYDRAULIC STOP COCK

—Unbreakable parts —No replacements

This is the "stop cock" that the oil field has long wanted. It has a longer life—requires no replacement of parts and can be kept in service longer than other types of plug valves. Ordinary valves or stop cocks seldom last thruout one installation—while in comparison and on actual service test BARTLESVILLE stop cocks have been put in use and reused on up to six well installation and are still in steady service at this writing.

Here are a few important BARTLESVILLE features:

(1)—Adapted for steam, water, gas, oil or air and *especially for Rotary Slush Pumps.*
(2)—Made in sizes of 1¼", 1½", 2", 2½", 3" and 4".
(3)—No grease to collect dirt, form scale and cause sticking.
(4)—Specially designed packing in both ends.
(5)—Fifteen (15) ton lift on core, 14" wrench, positive operation—no hammering.
(6)—One quarter turn of wrench to open and close.
(7)—Core (or plug) can't break or stick.
(8)—Made of special Bartlesville steel—indestructible.
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(10)—Can be packed under pressure, open or closed.
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(12)—First cost is your only cost. Unbreakable parts—no replacements.

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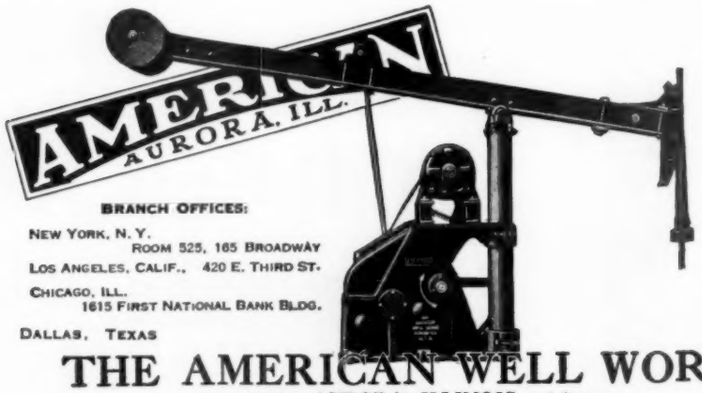

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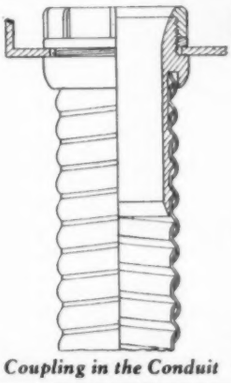

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Justify Naming it
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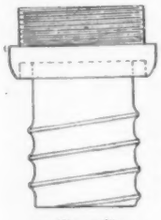

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Cowden's Volner 2, NEc SE NE SW; lost tools 5640 fe, SD.

KAY COUNTY—T 25n, R 1w, Sec. 15, Tonkawa Dev. Co.'s McDaniels 1, SEc; show oil Wilcox 4915-26; 2000 ft water in hole.

NOBLE COUNTY—T 24n, R 3e, Sec. 11, George Miller et al's Howe 1, drlg, 2634. T 20n, R 1w, Sec. 32, Marland Oil Co. et al's Kidd 1, Wilcox 5283-5290 ft, no show, P. B. to 1824 to 1926 ft.

TEXAS COUNTY—T 1n, R 18e, CM Sec. 11, Three Way Oil Co.'s Price 1, SEc NW, sd 3490 ft.

WOODWARD COUNTY—T 24n, R 17w, Sec. 32, Otstot Dev. Co.'s Simmons 1, SEc, sd 1500 ft.

WOODS COUNTY—T 24n, R 13w, Sec. 18, Miller et al's Copenhaver 1, NWc; spudded & sd.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer's White 1, SEc NW, sd 4755 ft.

WOODWARD COUNTY—T 23n, R 20w, Sec. 9, Billy Oil Co.'s Wyatt 1, C SE, sd 500 ft.

WOODWARD COUNTY—T 21n, R 19w, Sec. 15, Burgoyne Bros.'s 1, SWc SE NE, sd 1485 ft. T 21n, R 21w, Sec. 25, Sharon's Elmore 1, SWc, rig blown down TD 3025 ft.

GARFIELD COUNTY—T 20n, R 4w, Sec. 9, Marland Oil Co.'s Looman 1, NEc SE, sd 5735 ft, casing parted.

GARFIELD COUNTY—T 20n, R 4w, Sec. 12, Marland Oil Co.'s Miller 1, SWc, sd 4586 ft.

DEWEY COUNTY—T 18n, R 15w, Sec. 9, Huckelby & McCoy's Perfect 1, NEc, sd 4382 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Haley & Consolidated Drlg. Co.'s Quier 1, SEc SW. Fishg bailer 3945 ft. T 18n, R 2w, Sec. 21, Tibbets & Bond et al's Donahue 1, SW NW SE, drilling 1350 ft.

KINGFISHER COUNTY—T 16n, R 7w, Sec. 6, Gault Brown Oil Co.'s Campbell 1, C NW SE, sd 4516 ft. T 16n, R 6w, Sec. 27, Crawford & McKenna's Stugeon 1, NEc SW, sd 4509 ft.

BLAINE COUNTY—T 15n, R 12w, Sec. 26, W. J. Donley's Dickens 1, SEc NE, drilling 2535 ft.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spears' Piatt 1, SWc NE, sd 3223 ft.

OKLAHOMA COUNTY—T 13n, R 3w, Sec. 18, Slick & Bailey's Lufkin 1, C NE SE, sd 4570 ft. T 12n, R 3w, Sec. 15, Cromwell et al's Thompson 1, SW NE NE, top Wilcox 6940 ft, drlg 6963 ft. T 11n, R 3w, Sec. 24, I. T. I. O. Co.'s Park 1, C SE SE, Est 25M gas 3996-4013 ft. Cemt. 8 in. 4978 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. M. Bailey's Robinson 1, S NE NW, spudded & sd.

OSAGE COUNTY—T 25n, R 6e, Sec. 25, Amerada Pet. Corp.'s 1, NEc SW. TD 1570 ft. skid rig 40 ft west.

PAWNEE COUNTY—T 22n, R 5e, Sec. 33, Washoma Oil & Gas Co.'s Buffalo 1, SEc NW, drlg 2245 ft.

LINCOLN COUNTY—T 15n, R 6e, Sec. 23r Shaffer O. & R. Co.'s Pinkston 1, NEc SW, U. R. 15 in 812 ft T. D. T 13n, R 4e, Sec. 16, Bu-Vi-Bar's School Land 1, C NE SE, 5 in at 4851 ft, drlg 5265 ft.

OKFUSKEE COUNTY—T 13n, R 10e, Sec. 8, Dixie Oil Co.'s Drew 1, NEc SW, rig. T 11n, R 9e, Sec. 16, Houston Oil Co.'s Knight 1, SW NW SE, drlg 860 ft. T 11n, R 10e, Sec. 4, Moose & Daniels' Stidham 1, SWc NW, sd 622 ft.

MUSKOGEE COUNTY—T 13n, R 17e, Sec. 34, Elk Drlg. Co.'s McKee 1, CSL SE SE SE, SD 160 ft. T 13n, R 18e, Sec. 33, L. T. Haynie's Linder 1, C SE, show gas 2200-49 ft.

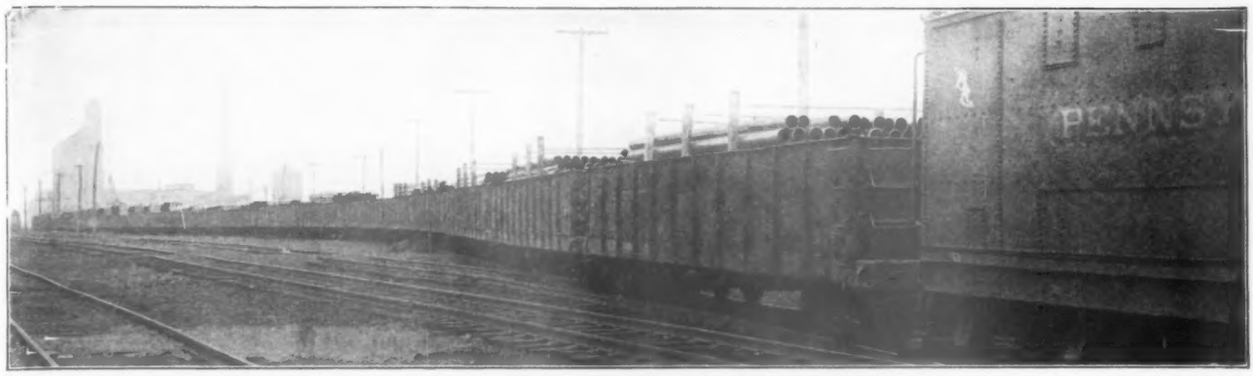
McINTOSH COUNTY—T 12n, R 18e, Sec. 15, A. B. Wolfe et al's Beck 1, NWc SE, spud & sd.

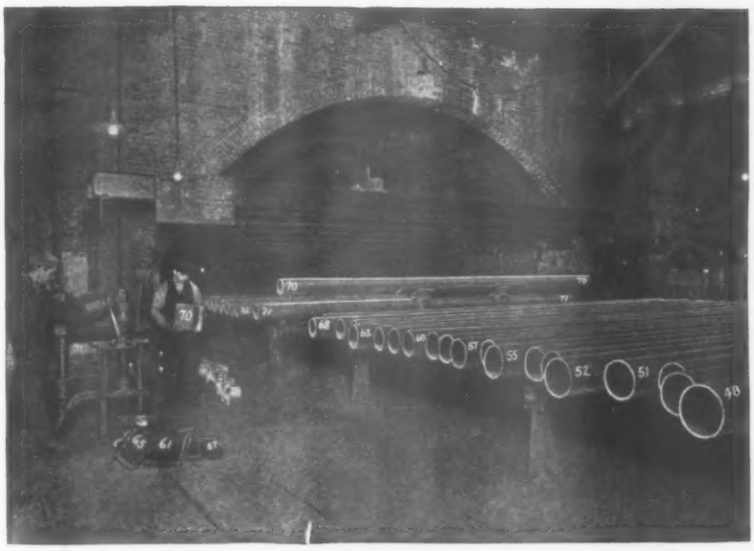
PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al's McDuff 1, SW NW SE, 3M gas at 1325-1390 ft, 2M gas 1890-95 ft, 3M gas at 4472-4525 ft, 3M gas 4613-4635 ft, Wilcox 5443-5524, drlg 5527 ft.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion Oil Co.'s Sanders 1, NW NE SW, sd 2480 ft.

LATIMER COUNTY—T 5n, R 18e, Sec. 15, Limestone Oil & Gas Co.'s Murray 1, SWc, sd 1800 ft.

SEMINOLE COUNTY—T 11n, R 6e, Sec.





One Hundred Miles of Plain End Welded Pipe Without a Single Leak

Field test on the one hundred mile line, of which these trainloads were a portion, demonstrated the free welding qualities of South Chester Pipe resulting from extreme care in selection of raw material and the freedom from crystallization and lamination so important in welded lines.

The unusual care which South Chester gives to Crusher Tests and all other tests and inspections makes for satisfactory service in the line.

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3600′ 6⅝″ 24-lb. seamless casing.
200′ 20″ 90-lb. casing.
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1200′ 12½″ 50-lb. casing.
2000′ 10″ 45-lb. casing.
2800′ 8¼″ 32-lb. casing.

Will rent this casing or any other pipe which you may need. Let us finance your operations by carrying your pipe and casing investment for you.

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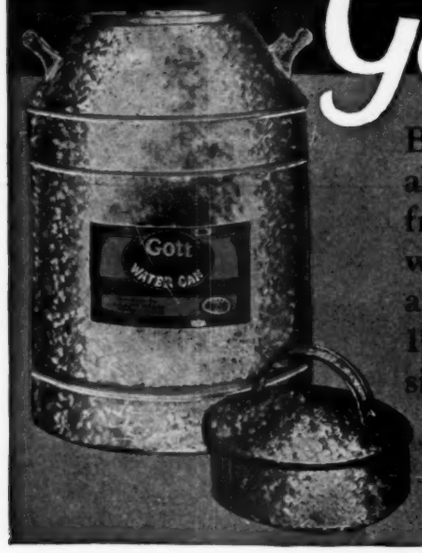

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SURVEYS
ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

27, Furhman Pet. Co.'s Fay 1, SE NW SW drlg 2710 ft.

POTTAWATOMIE COUNTY—T 10n, R 3e Sec. 12, Sikes, Kilgore & Shaffer's Ives 1, C SE SE, drlg 5572 ft.

SEMINOLE COUNTY—T 10n, R 6e, Sec 3, Superior's Davis 1, SWc SE, T. S. 439 ft. T. D. 4393 ft. HFW. SD. T 10n, R 7e Sec. 18, Shaffer O. & R. Co.'s Jones 1, SW NE, TD. 4710 ft HFW, PB to Cromwell sand 3715 ft S. D.

POTTAWATOMIE COUNTY—T 9n, R 4e Sec. 13, Atlantic & Gypsy's Delaware 1, SE NE NE, drlg 56 ft. T 9n, R 5e, Sec. 30 Magnolia's Germany 1, SEc NW, drlg 2440 ft.

POTTAWATOMIE COUNTY—T 8n, R 2e Sec. 24, Superior's Jones 1, SW NW NE, fishg 4660 ft. T 8n, R 4e, Sec. 15, Phillips Pet.'s Sparkman 1, SEc SW; drlg 2977 ft.

SEMINOLE COUNTY—T 8n, R 8e, Sec 4, McCullouch's McGilbray 1, SWc NE; rig

HUGHES COUNTY—T 8n, R 9e, Sec. 18 Pure Oil Co.'s Fixico 1, NEc SW, drlg 1990 ft. T 8n, R 10e, Sec. 1, Bauer et al's Penn 1. NW SW NE, 10 in collapsed 2350 ft, sd.

CLEVELAND COUNTY—T 7n, R 1w, Sec 15, Sooner Oil Co.'s Vandeveer 1, NE NW SW SD. 3120 ft.

POTTAWATOMIE COUNTY—T 7n, R 2e Sec. 17, T. B. Slick's Spangler 1, NW SE NW NW; drlg 4934 ft. T 7n, R 5e, Sec. 14 Champlin O. & R. Co.'e Harber 1, SW NE SW, R. U. R.

SEMINOLE COUNTY—T 7n, R 6e, Sec. 7 Simon & Beam's Palmer 1, NE NW NE, rig

POTTAWATOMIE COUNTY—T 6n, R 5e Sec. 16, T. B. Slick's School Land 1, sec Wilcox 4708-4745 ft, hfw, plugging. Sec. 20 Roxana Pet. Corp.'s Deister 1, nw se ne, top Viola 3864 ft, hfw, dr 4190 ft.

SEMINOLE COUNTY—T 6n, R 7e, Sec 4, Shaffer's Carolina 1, sec sw ne, dr 3764 ft.

HUGHES COUNTY—T 6n, R 8e, Sec. 32 T. B. Slick's Epperly 1, nw ne nw, cmtg 8-inch 3969 ft.

SEMINOLE COUNTY—T 5n, R 6e, Sec 11, T. B. Slick's Harjo 1, nwc ne, dr 2515 ft.

HUGHES COUNTY—T 6n, R 8e, Sec. 32 T. B. Slick's Epperly 1, nw ne nw, cmtg. 8-inch 3969 ft.

SEMINOLE COUNTY—T 5n, R 6e, Sec 11, T. B. Slick's Harjo 1, nwc ne, dr 2515 ft.

HUGHES COUNTY—T 5n, R 9e, Sec. 17 E. W. Whitney's Huddlteston 1, sec sw, dr 1602 ft.

GARVIN COUNTY—T 4n, R 3e, Sec. 10 Garland Oil Co.'s Strickland 1, sw nw sw, fsh 5-inch casing 2927 ft.

PONTOTOC COUNTY—T 3n, R 8e, Sec. 10, Douglas' Johnson 1, c nw nw, dr 2700 ft.

COAL COUNTY — T 2n, R 8e, Sec. 5 Wichtex Oil Co., Folsom 1, c nw nw, lcn.

MURRAY COUNTY—T 1n, R 2e, Sec. 17 Revels & McGee Wolfe 1, nwc, ur 12-inch csg. 1070 ft.

COAL COUNTY—T 1n, R 8e, Sec. 35, W E. McGraw Oil Co., Patten 1, sw se ne, dr 4130 ft. T 1n, R 9e, Sec. 24, Galbreath et al's Jones 1, swc se, spudded and sd.

CUSTER COUNTY—T 14n, R 14w, Sec. 1 W. E. Witt's Wellman 1, c se, spudded and sd

CADDO COUNTY—T 12n, R 11w, Sec. 15 Abernathey & Ashton's 1, c nw, dr plugs 406 ft, salt water, running 6-inch 4175 ft.

ROGER MILLS COUNTY—T 11n, R 26w Sec. 4, L. C. Hivick's Davis 1, c nw ne, dr 400 ft.

CADDO COUNTY—T 10n, R 12w, Sec. 29 Magnolia's Shelby 1, swc, dr 4150 ft.

BECKHAM COUNTY—T 9n, R 22w, Sec 17, Producers Exp. Co.'s Seidel 1, se sw sw dr 1770 ft. Sec. 32, C. & H. Pet. Co.'s Barne 1, nw c ne, owdd, small show oil at 2210 ft dr 3460 ft. T 8n, R 25w, Sec. 1, E. L. Martin's 1, nwc se, lcn. T 8n, R 21w, Sec. 3 Day Oil Co.'s Ault 1, c nw nw, sd 60 ft.

KIOWA COUNTY—T 7n, R 15w, Sec. 3 David Malernee's Van Kirklan 1, nwc, s 858 ft. T 6n, R 16w, Sec. 18, Clarence Waller's Foster 1, nwc ne, sd 500 ft. T 6n, R 15w Sec. 6, Johnson-McDowell's 1, c sw ne, s 1750 ft.

CADDO COUNTY—T 6n, R 12w, Sec. 29 W. J. Hartley's Gilbreath 1, sec nw se, owdd sd 3394 ft.

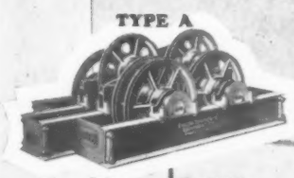
GRADY COUNTY—T 5n, R 6w, Sec. 31

EMSCO

CROWN BLOCKS

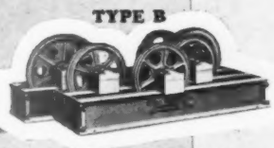
FOR EVERY OIL FIELD PURPOSE

TO MEET EVERY FIELD REQUIREMENT



TYPE A

For Heavy Drilling (Roller Bearings)

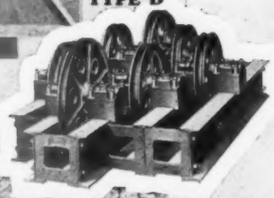


TYPE B

For Medium Drilling (Babbitt Bearings)

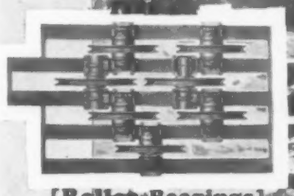
TYPE C

For Light Drilling and Pumping (Bronze Bearings)



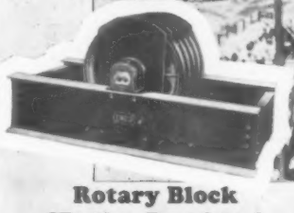
TYPE D

For Medium Drilling (Bronze Bearings)



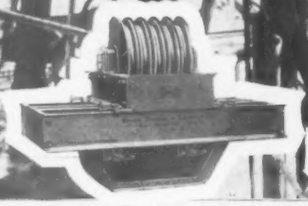
(Roller Bearings)

Rotary Block (Roller Bearings) 36" Sheaves



TYPE EA

Rotary Block (Roller Bearings) 36" Sheaves



DOUBLE DECK

Original Type (Roller Bearings)

TYPE C

Double-deck for Deepest Drilling (Roller Bearings)

TYPE F

For Light Drilling and Pumping (Bronze Bearings)

Emsco Crown Blocks are fully covered by patents: 1,673,346, June 12, 1928; 1,642,170, Sept. 13, 1927; 1,563,739, Dec. 1, 1925; 1,578,656, Mar. 30, 1927; 1,651,663, Dec. 6, 1927; and Patents Pending.

Write for our new 64 page Bulletin No. 15, illustrating the most complete selection of crown blocks ever offered to the trade.

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EMSCO DERRICK & EQUIPMENT COMPANY
LOS ANGELES, CALIF., HOUSTON, TEXAS-DALLAS, TEXAS
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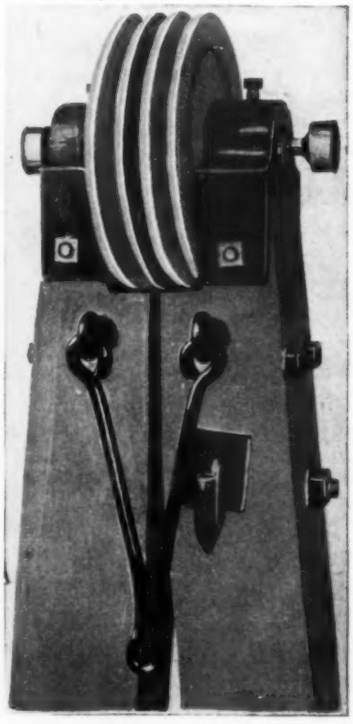
EMSCO STEEL EQUIPPED WELLS ARE SAFE

Say you saw it in The OIL WEEKLY

SAFETY PULLING MACHINE COMPANY

Wishes to announce that the Safety and Eclipse special Pulling Machines (7x10x36 ft. A-Mast) size will be equipped with Double Crown Pulleys, fitted with 2-15/16 Phosfer Bronze Bushings.



The price to remain the same. Safety $375.00. Eclipse $350.00. F. O. B. Factory.

Either the complete Machine or the Stripped Derrick equipped as above.

For complete description write

SAFETY PULLING MACHINE COMPANY

INDEPENDENCE, KANSAS

P. O. BOX 525

Wirt Franklin Pet. Corp.'s Long 1, swc ne, lcn. T 3n, R 7w, Sec. 8, David Malernee's Brokn 1, sec nw sw, dry and aband., 3502 ft.

STEPHENS COUNTY—T 2n, R 5w, Sec. 20, Martin & Smythe's Vestal 1, c ne se, oil sand 1982-90 ft.

COMANCHE COUNTY—T 1n, R 12w, Sec. 14, P. Hrbacek & A. E. Korthaus' Wilson 1, c ne sw, owdd, sd 3780 ft.

STEPHENS COUNTY—T 1n, R 7w, Sec. 2, Stahl & Burris' Jefferson 1, se ne nw, rur and sd.

JACKSON COUNTY—T 1s, R 20w, Sec. 33, Stanley McGregor's 1, swc nw sw, sd 1800 ft.

STEPHENS COUNTY—T 1s, R 7w, Sec. 12, Ilsing, Russell & Nance's Houston 1, nec sw sw, dr 350 ft.

KIOWA COUNTY—T 2s, R 16w, Sec. 6, Landfair 1, sec sw se, sd 2485 ft.

STEPHENS COUNTY—T 3s, R 6w, Sec. 18, Harry Hines' Beaver 1, nw se se, dry and aband. at 2610 ft.

COTTON COUNTY—T 4s, R 12w, Sec. 16, Guiler & Pyson's Thomas 1, sec sw, spudded and sd.

JEFFERSON COUNTY—T 5s, R 8w, Sec. 28, Amerada's Emerson 1, nwc se sw, running 5-inch at 3722 ft.

JOHNSON COUNTY—T 1s, R 7e, Sec. 29, Smitty-Kinsley's Lane 1, sec nw, dr 750 ft.

MARSHALL COUNTY—T 5s, R 4e, Sec. 11, Bilbo's Chapman 1, ne nw ne, sd 380 ft.

NORTHERN CALIFORNIA

Completions

Company, Well and Location	Initial Production Bbls.	Depth
ARVIN—		
Texas Co.'s Pauley 1, 22-31-29.....	*	5195

KERN COUNTY

ARVIN—Texas Co.'s Pauley 1, 22-31-29, abn 5195 ft.

BAKERSFIELD — Pacific Eastern Prod. Co.'s KCL 4, 6-30-28, dr shale and sand 3350 ft; Hughes 1, 5-30-28, dr shale 2666 ft.

BUTTONWILLOW—Doheny-Stone Drilling Corp.'s 1, 7-29-24, sd 4280 ft. Milham Explo. Co.'s Paige 1, 6-28-23, sdtr 6¼-inch cas 2450 ft, td 2740 ft. Southern California Gas Co.'s 1, 10-28-23, lcn

COMANCHE POINT — W. W. Stabler's Tejon 1, 23-32-29, fsh for dr pipe, 2860 ft.

DELANO—Jasmine Oil Co.'s Johnson 1, 33-25-27, dr sand 3021 ft. S. A. Delsel's Jones 1, 4-26-27, dr hard sand 1984 ft.

EDISON—General Pet. Corp.'s Kerwin 5, 32-29-29, sdtr iron 3008 ft. Midway Northern Oil Co.'s Brown 1, 29-29-30, dr sand 3669 ft.

FAMOSA—Famosa Oil Co.'s Mattie 1, 34-27-26, dr shale and sand 3800 ft.

GOULD HILLS—Bomke and Ball's Larson 1, 19-29-20, sr 2022 ft. Cymric Oil Co.'s Porter 3, 36-28-20, dr shale 1600 ft. Exeter Oil Co.'s Pray 2, 1-29-20, dr sand 200 ft. Oxena Oil Co.'s 1, 27-29-21, pumping water and some oil, td 2930 ft.

SAN EMIDIO—Standard Oil Co.'s 1, 35-11-23, rigging rotary.

SHAFTER—North American Royalties' 1, 8-28-25, sd 2545 ft.

SEMITROPIC—Richfield Oil Co.'s Kerwin 1, 21-26-22, fsh for dr pipe 3600 ft.

WASCO — Main Oil Co.'s 2, 28-27-24, sd 5270 ft.

VENTURA COUNTY

BARDSDALE—Triple A Investment Co.'s 1, 28-4-19, running 8¼-inch cas to test oil sand from 2490 ft to 2950 ft.

CAMARILLO—American Oil Co.'s 1, 33-2-20, dr basalt, 520 ft.

FILLMORE—Sterling Supply Co.'s 1, 5-3-19, repairing rig, td 3985 ft.

OJAI—Continental's Fox 1M, 21-4-22, running 10-inch casing, td 2050 ft; Thompson 1, 22-4-22, running 12¼-inch cas, td 1760 ft.

OXNARD—Shell Co.'s Grub 1, 22-2-22, coring and sr, td 4440 ft; Deidrick 1, 33-2-22, sr 820 ft.

PIRU—Petroleum Securities Co.'s Diablo 1, 26-5-10, dr gray sand 5750 ft. Wasibi Oil Co.'s Bishop 2, 34-3-19, dr sand and shale 1571 ft. Temescal Pet. Co.'s 5, 3-4-26, dr gray sand 1826 ft.

RINCON CREEK — Montecito Oil Producers' Cota 1, 13-4-25, sd 3650 ft. Scott Petro-

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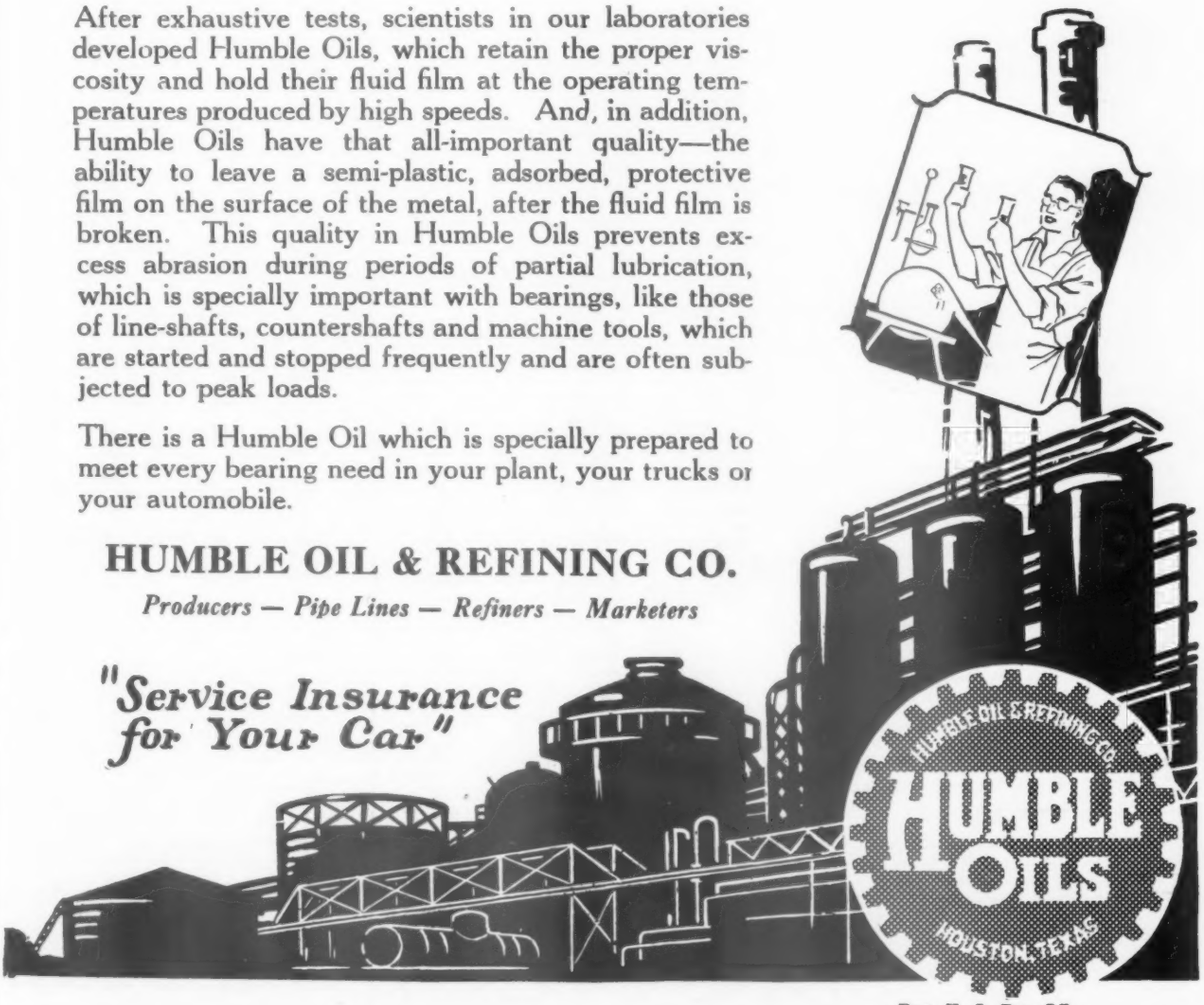

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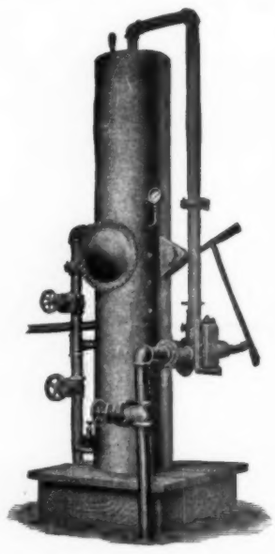

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leum Properties' 1, 35-4-24, plugged to 4450 ft, sd.

SANTA PAULA—W. W. Bryant's Anlauf 3, 21-4-21, rigging rotary. San Pedro-Ft. Fermin Synd.'s 1, 13-4-21, sr hard sand 680 ft.

SATICOY—Standard's Citrus 5, 11-2-23, rigging rotary.

SIMI—Emma F. Exline's Seaton 1, 32-5-21, fsh for dr pipe, td 2070 ft. Shell's Berylwood 1, 32-3-20, pumping water, td 7208 ft.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, dr oil sand 4500 ft.

VENTURA—Star Pet. Co.'s Canet 1-A, 13-3-23, dr brown shale 6783 ft.

MISCELLANEOUS

FRESNO COUNTY — Fresno-Madera Oil Co.'s 1, 18-12-21, sd 4150 ft.

KINGS COUNTY—Milham Explo. Co.'s 1, 2-22-17, redrilling 6888 ft.

COLOUSA COUNTY — Continental's 1-A, 31-18-4, fsh 4300 ft, may abn.

MADERA COUNTY — Los Angeles-Madera Synd.'s 2, 21-10-17, sd 2634 ft.

MONTEREY COUNTY—Marland's Naciemento 1, 32-24-11, dr hard sand 4916 ft.

SAN MATEO COUNTY—Shell's Butte 1, 21-6-5, flowing some oil, td 3088 ft; Cowell 2, 8-6-5, coring and sr 3107 ft.

SAN LUIS OBISPO COUNTY—Holland & Kennebrew's 1, 22-32-22, sd 1710 ft. Indian Dome Oil Co.'s 1, 25-31-12, dr brown shale 2766 ft. Panorama Oil Co.'s 1, 7-31-21, dr sandy shale 2950 ft. Union's Russ 1, 34-32-15, dr shale 3080 ft.

SANTA BARBARA COUNTY—Channel O. & Dev. Co.'s 1, 26-4-27, dr sandstone 6148 ft. Summerland Oil Co.'s Becker 1, sd 3085 ft.

TULARE COUNTY—Kings-Tulare Synd.'s 1, failed on prod, test, td 5150 ft, will deepen.

SOUTHERN CALIFORNIA

BELLEFLOWER — World Pet. Corp.'s Blythe 1, sd 2915 ft.

CALABASAS—Easton and Smith's Morrison 1, 19-1-17, co 2833 ft.

CHATSWORTH—Russell Pet. Co.'s Joughin 2, co 292 ft.

COSTA MESA—Mesa Pet. Corp.'s B. & G. 1, 11-inch cas cmt 2500 ft, testing, td 3195 ft.

DAVIDSON CITY — Calif. Well Drilling Co.'s Del Amo 1, producing some gas and oil, td 7662 ft, casing pressure 900 pounds.

DOWNEY—Associated Oil Co.'s Taylor 1, fsh for dr pipe, 2000 ft.

FULLERTON—Shell Co.'s Stern 1, dr sand and shale 5914 ft.

INGLEWOOD—Ring Pet. Corp.'s Simons 1, fsh cmt 3975 ft, td 4350 ft, sd.

LYNWOOD — Security Pet. Corp.'s Community 1, sd 5335 ft.

MONTEREY PARK — Monterey Park Pet. Co.'s Browning 1, sd 4350 ft.

POMONA—Pomona Oil Assn.'s Community 1, dr 223 ft.

PUENTE HILLS—Anchor Pet. Co.'s Hudson 1, dr shale and sand, 4282 ft.

RIVERA—Empire Drilling Co.'s Purman 1, dr shale and sand 3593 ft.

SAN FERNANDO—Shell Co.'s Mission 2, sr 3940 ft.

WATSON — White-Behr Consolidated Oil Co., No. 1, jarring liner, td 5300 ft.

MISCELLANEOUS

RIVERSIDE COUNTY — Hall Pet. Co.'s Watt 1, 23-7-3, dr shale 450 ft. Hemet Pet. Co.'s Ward 1, sd 2880 ft. Spindletop Synd.'s Salton 1, 25-7-10, sd 3460 ft.

SAN BERNARDINO COUNTY—Western Pacific Oil Co.'s 3, co 3075 ft, td 3085 ft.

SAN DIEGO COUNTY—Davenport Oil & Gas Co.'s San Marcos 1, fsh 685 ft. C. H. Schuster's Genymede 1, fsh for dr pipe, 3610 ft. S. S. Turner's Baler 1, fsh for bit, td 1420 ft.

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Formerly Assistant Examiner United States Patent Office
Andrews, Streetman, Logue & Mobley
12th Floor Union N. Bk., Houston, Texas

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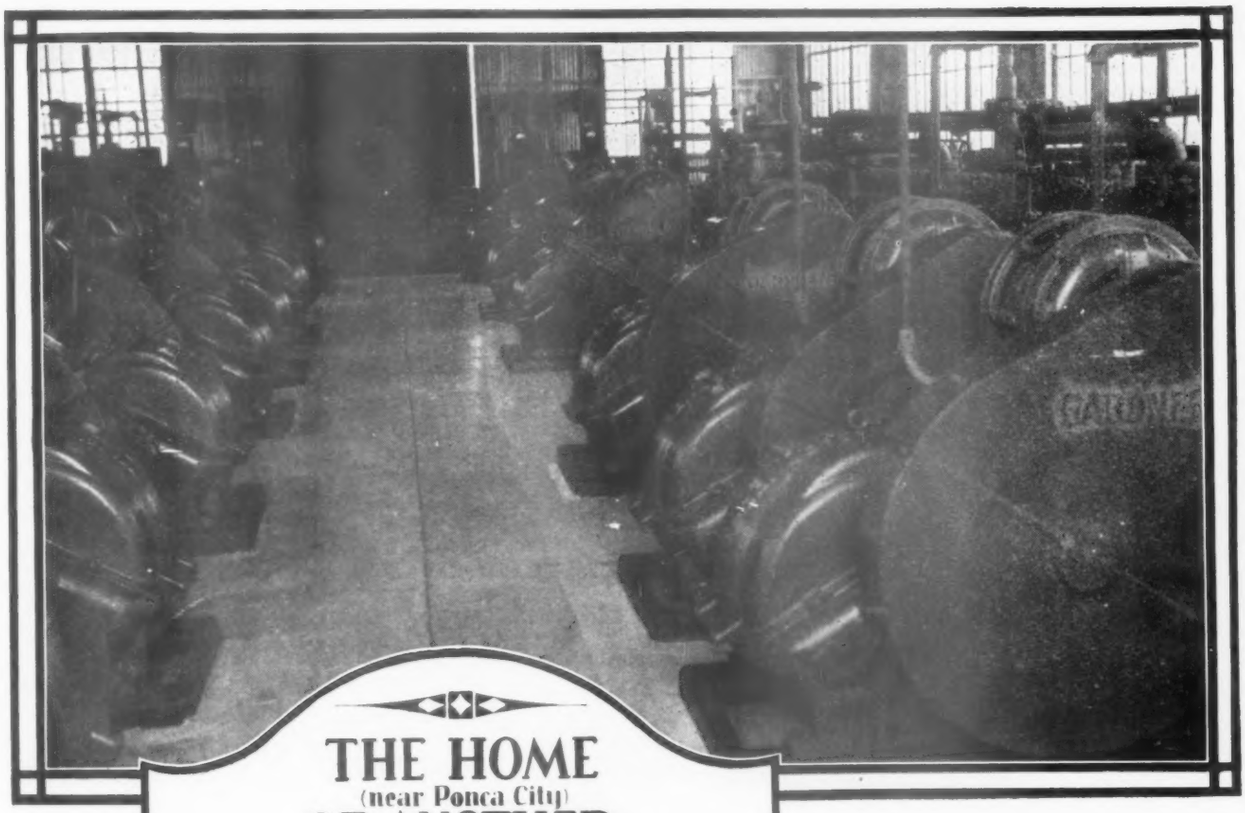

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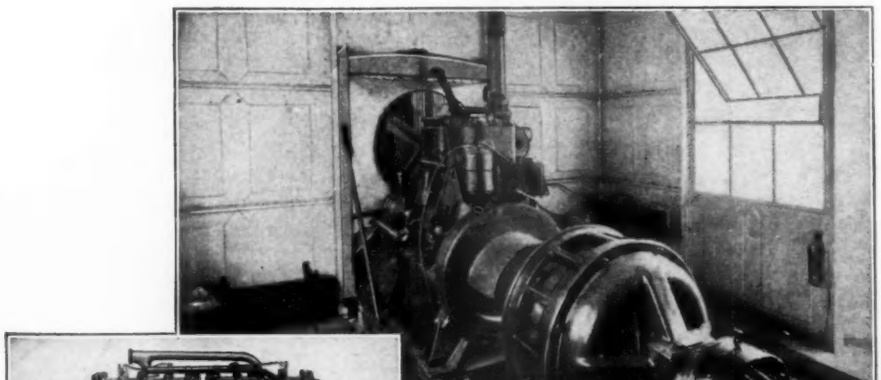
Waukesha Engined Electric Power Plant Operating on "Waste" Gas



p-739-L

80 *H. P. Waukesha Heavy Duty Oil Field Stationary Power Unit used to drive big electric generator for lighting in Oklahoma Refining Plant.*

Electric Lights From "Waste" Gas

For lighting a Natural Gas Plant operated by the Gypsy Oil Company at Earlsboro, Oklahoma, a Waukesha "Ricardo Head" Heavy Duty Oil Field Type Engine was selected to drive the electric generator. These engines have proved an unusually efficient source of power for Oil Field work, particularly where "Waste" gas is available and water is scarce. Past experience shows that these engines may be depended upon to give long uninterrupted 24-hour service.

Waukesha Stationary Oil Field Power Plants are built in three sizes, 80-100 and 125 H. P. and are used for driving "Gas Lift" Compressors and in cable tool drilling. The Oil Field Power Units, which are completely weatherproofed in their own housing, are built in these same sizes and also in sizes from 25 to 70 H. P. These units are also used for driving Rotary Rigs, oil, mud and water pumps and for electric power plants as shown above. Send for our new "Oil Field Bulletin" No. 629.

P-773-L

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WAUKESHA MOTOR COMPANY

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Exclusive Builders of Heavy Duty Gasoline Engines for Over Twenty Years

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

Twin-Cylinder Steam Drilling Engine

NATIONAL SUPPLY COMPANY

A new item announced by the National Supply Companies is the Ideal-Ajax Roller Bearing Twin-Cylinder Steam Drilling Engine, 12x12.

Among the outstanding features of the engine are the following: the crank shaft is equipped with Timken roller bearings; all moving parts are enclosed and lubricated with the splash oil system; cylinders are of piston valve type, absolutely balanced; and the engine is equipped with steam separator and automatic trap, preventing condensation of water from getting into the cylinders.

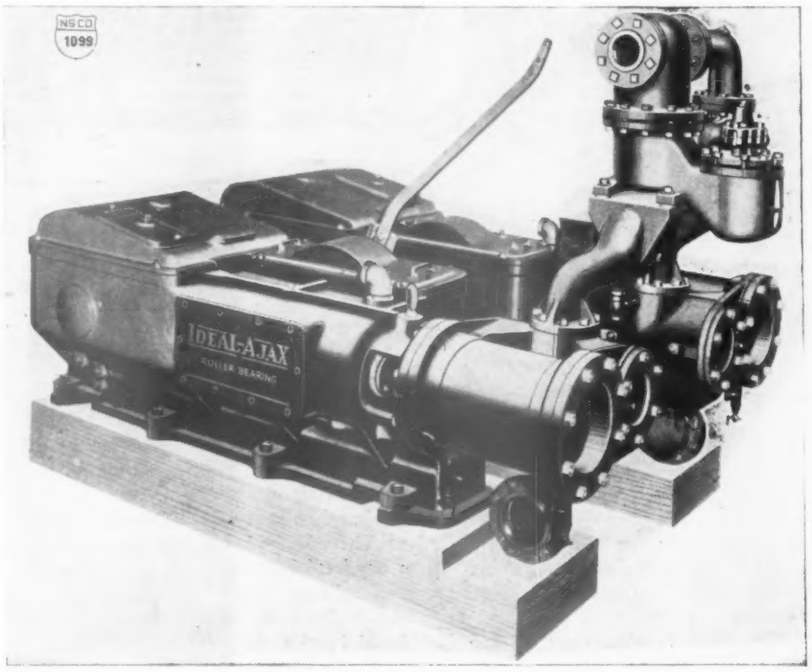
The main frame is cast in one piece with cast iron covers machine fitted to the frame to prevent oil leakage; and the main cover over crankcase is fitted with cast iron hand hole cover for adjusting the crank end brass, for filling with oil and for inspection purposes.

The crankshaft is five and one-half inches in diameter on which are assembled cast iron solid eccentric hubs keyed in place, four Timken Gearing Units No. 99550-99100 are assembled on this shaft, cast iron sleeves taking the outer Timken raceway which, in turn, is held into the frame by heavy cast iron cap. Crank discs are of cast steel, are split and securely clamped to the crankshaft by a one and one-half inch alloy steel heat treated bolt and securely keyed in place. Crank pins are hardened and ground and pressed into the steel discs or counterweights and riveted over on the under side. Crankshafts are ground to a tolerance of .001".

The piston valve takes steam from the inside and exhausts from the outside, the only pressure on the valve stem stuffing box being the exhaust pressure. This valve, being absolutely balanced, takes all of the strain from the eccentric straps, eccentric rods and valve stem.

Each end of each cylinder is equipped with combination relief valve and drain cock, these being set at about 200 lbs. to take care of any excessive amount of water which may get through into the cylinders.

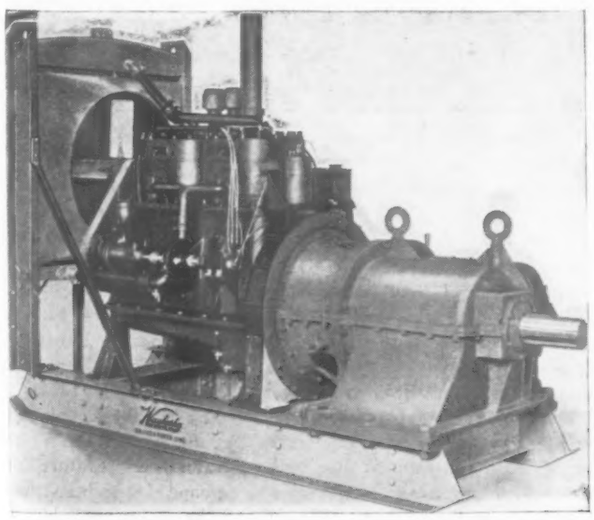
The engine is equipped with a four-inch extra heavy steam separator, the bottom half of the separator housing a one and one-quarter inch Strong Steam Trap. A three-inch flanged throttle valve is mounted by means of a four-inch elbow between the separator and the steam manifold and this assembly is mounted on the top of the manifold.



Ideal-Ajax Roller Bearing Twin Cylinder Steam Drilling Engine.

The engine is equipped with a force feed lubricator which is driven from the valve stem. The valve stem, sprocket and a portion of the piston rod through the space or opening being the only exposed moving parts.

Further information on this engine may be obtained from the National Supply Companies.



Waukesha Herringbone Speed Reducer.

Waukesha Speed Reducer

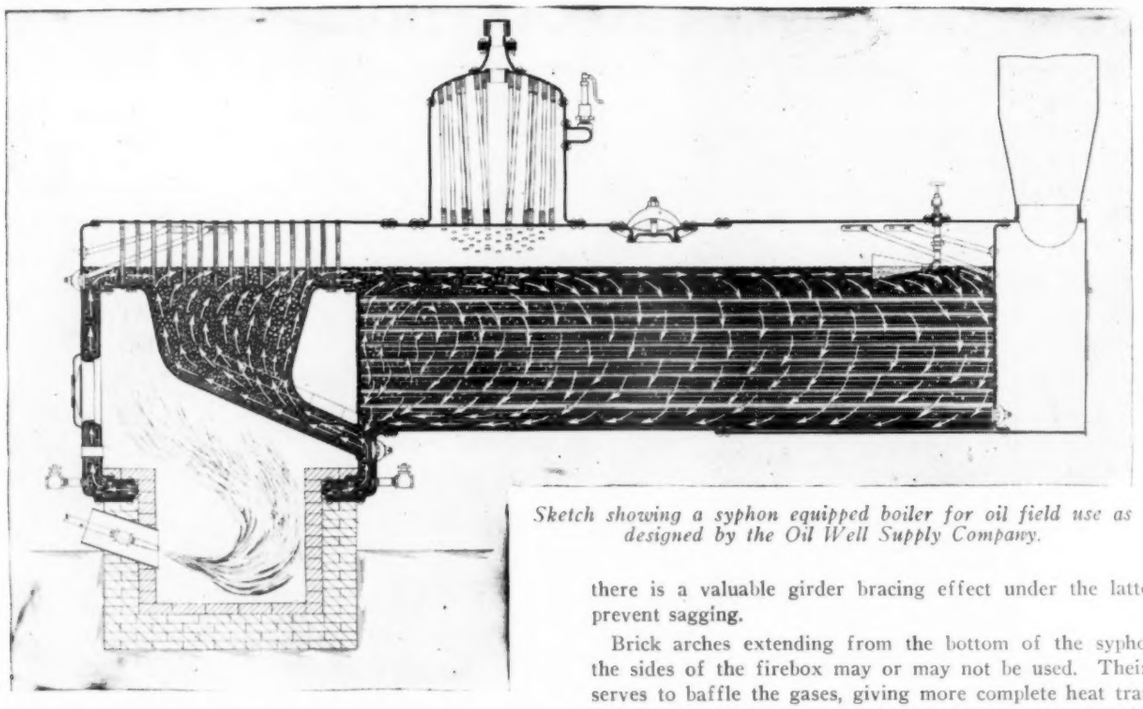
WAUKESHA MOTOR COMPANY

Waukesha Motor Company, Waukesha, Wisconsin, has recently put on the market a speed reducer for use with the multiple cylinder heavy duty four cycle gas engine and the natural gas engine.

The Waukesha herringbone speed reducer operates with a ratio of 3.96 to 1 and was designed for heavy duty. The power take-off shaft is five inches in diameter, giving a large bearing surface for the driving sprocket. Gears are of the herringbone type.

Other features of the outfit include: single plate clutch, split clutch housing, heavy flange, massive base with provision for large hold-down bolts, inspection openings for adjustments, substantial eye-bolts for handling, self-aligning double row ball bearings, pipe plugs of large size for draining oil and checking level, wide oil-tight flanges.

Further details may be obtained from the company, by request.



Sketch showing a syphon equipped boiler for oil field use as designed by the Oil Well Supply Company.

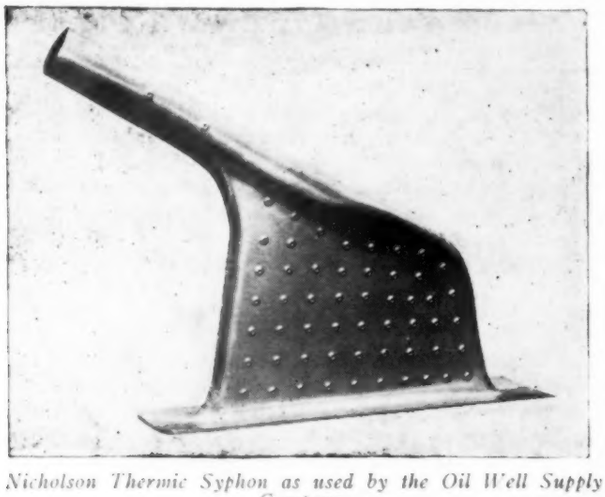
Oil Well Uses Syphon in Boilers

OIL WELL SUPPLY COMPANY

RECOGNIZING the advantages of improved circulation the Oil Well Supply Company of Pittsburgh, Pennsylvania, has incorporated the Nicholson Thermic Syphon in the design of their boilers. This system of circulation has given remarkably successful performances in railroad boiler practice for a number of years and early reports from the oil fields on some syphon equipped boilers shipped by the above company indicate that, there also, syphons prove of great value.

Following is a brief description of the syphon:

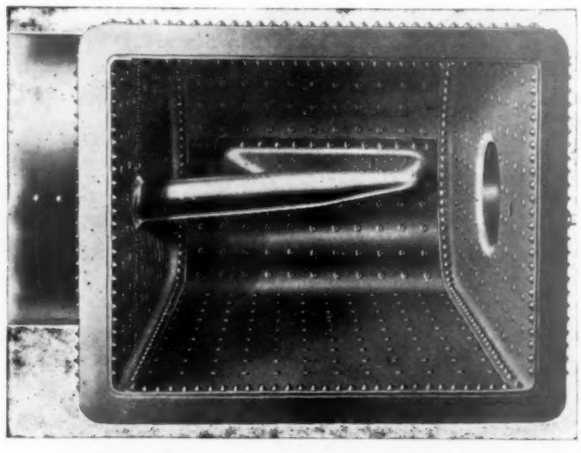
The lower or throat end is circular in cross-section and is electrically welded to the front tube sheet just below the tubes and opening into the bottom of the shell. At a distance of about twice the diameter of the throat, the cross section becomes rectangular, and slants upward, the width remaining constant but the lengh increasing until at the crown sheet the length is nearly that of the firebox. A section of the crown sheet is cut out and the syphon is electrically welded into the opening. The flat sides of the syphon are well stayed with hollow staybolts and being welded to the flue sheet and crown sheet, there is a valuable girder bracing effect under the latter to prevent sagging.



Nicholson Thermic Syphon as used by the Oil Well Supply Company.

Brick arches extending from the bottom of the syphon to the sides of the firebox may or may not be used. Their use serves to baffle the gases, giving more complete heat transfer and also protecting the welded tubes from possible burning by the flame of the fire.

Being located in the hottest part of the firebox, the water in the syphon is always exposed to the highest temperatures. This causes the water to rise in he syphon, it being replaced by the cooler water drawn in from the bottom of the shell at high velocity due to the Venturi effect in the throat. This augmented circulation tends to keep an even temperature of water throughout the boiler and thus allows the boiler to be brought up to pressure without undue strains on the tubes and joints.



Showing interior of boiler equipped with syphon.

The purpose of the syphon is four-fold, namely: to increase the steaming capacity of a boiler of a given horsepower rating; to save fuel; to reduce the deposit of sediment in locations of poor circulation; and to protect the crown sheet from sagging due to accidental low water in the boiler.

The first two purposes are accomplished by adding valuable firebox heating surface and increasing the circulation which keeps all of the water at or near the steaming temperature for the pressure required. At a sudden demand for more steam, a slight drop in pressure makes all of the water available as steam; then with a slight increase in firing the temperature of

all the water is quickly raised to that of steam at the desired operting pressure.

Due to the increased circulation, most of the mud and sludge in the water is kept in suspension and carried back to the water legs, so that it may now settle and adhere at the points of poor circulation as is the tendency in most oil field boilers not equipped with syphons. This tends toward better heat transfer in the boiler, because of less scale, and makes proper washing of a boiler easier for the operator. This last advantage is very important when one considers the type of feed water usually available in the field.

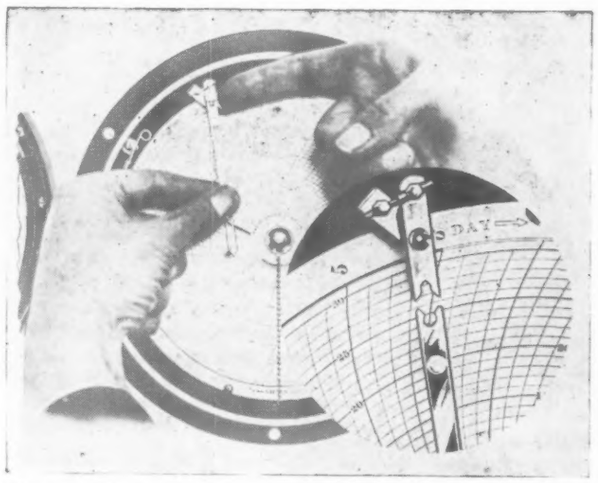
It has already been remarked that the physical construction and location of the syphon makes it an excellent girder brace for the crown sheet. In addition to this, the rapid circulation through the syphon produces a fountain like effect, raising water up from the bottom of the shell and discharging it over the whole crown sheet. This action protects the crown sheet with water to a remarkable extent in event general water level in the boiler is accidentally permitted to fall below the uppermost part of the crown sheet.

Comparative Tests

In a recent test run on two boilers set up side by side and exactly identical except that one was equipped with a syphon and the other was not, some very interesting points were demonstrated. The steaming capacity of the syphon boiler exceeded that of the non-syphon boiler by 9%, the efficiency of the syphon boiler was aprpoximately 15% better and the quality of the steam remained the same. The syphon boiler was brought up to pressure in a shorter period of time than the non-syphon boiler and with less fuel consumption.

Both boilers were equipped with the same settings and burners and were fired to the limit of the burner capacities. The boilers developed 197% and 212% rating respectively and it is believed that with larger burners and larger furnace volumes much more could be gotten from them.

After the test, while still steaming, both boilers lost their feed and the water level got below the lowest indicating level. Fires were immediaely shut off but on inspection it was found that both fusible plugs in the non-syphon boiler had started to belt while in the syphon boiler, which was the first to suffer from low water because of more rapid steam geenration, the plugs showed no indication of over heating.



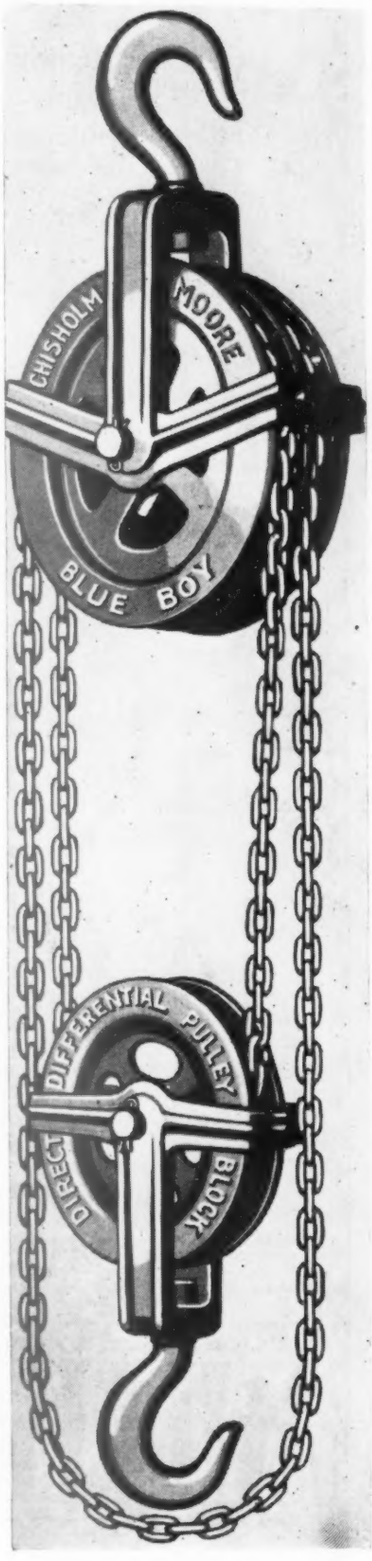
The latest improvement in Foxboro Recording Instruments is the patented Detachable Pen Arm with Open End. It can be quickly replaced if bent or broken. All one has to do is to detach the pen arm with the finger nail and slip on a new one. The insert shows the simple construction of this pen arm and how easily it can be slipped into place. The lower end of the pen arm is open to facilitate the removal, cleaning, and inking of the pen and to keep the pen arm clean. Further information can be secured from the Foxboro Company, Inc., Foxboro, Massachusetts.

New Direct Differential Hoist

CHISHOLM-MOORE HOIST CORPORATION

The Chisholm-Moore Hoist Corporation, Cleveland, Ohio, is now manufacturing and distributing a new direct differential hoist, known as the "Blue Boy."

The "Blue Boy" is not only a very efficient hoist, but is also characterized by a high degree of safety, being equipped with the well-known Hercules Inswell electric welded load chain.



Because the extra heavy load sheaves, malleable iron yokes and drop-forged hook are painted blue and the Inswell chain is copper plated, the new "Blue Boy" has an unusually attractive appearance.

A new catalog insert section, describing the "Blue Boy" and other hoists in the Chisholm-Moore line, has just been published and is ready for distribution.

Literature on Drop Forging

A most interesting piece of literature covering the subject of drop forgings has just been issued by the Interstate Drop Forge Company of Milwaukee. It is called "Die-ology" and is an explanation of modern die construction and board hammer operation. It includes in the layman's language an explanation of general operations and terminology common to the industry. The subjects covered are the board drop hammer, die blocks, die sinking, and resinking, lock dies, layout, trimming and punching, draft, cleaning, restriking, and lead casts.

Copies may be secured by writing the company at Twenty-seventh Street and Capitol Drive, Milwaukee, Wisconsin.

No. 13 of a series on the

FLUID PACKED PUMP

FPP

The Removable Type

A distinct advantage of the Removable Type is that it is possible to pull the entire standing valve assembly with a sucker rod operation.

The assembly consisting of traveling tubes, standing tube and standing valve are run in the barrel or pump jacket.

West Texas Representative:
R. W. (Bill) Harr
P. O. Box 45
McCamey, Tex.

Fluid Packed Pumps are manufactured *only* by the Fluid Packed Pump Company of Los Nietos, California and distributed in Texas exclusively by the

ROBERT J. MILLER COMPANY
HOUSTON TEXAS

SQUEAKS FROM THE BULL WHEEL

"Are you a dry or a wet?"

"It depends on whether I am making a campaign speech or giving a diner party."

"Doesn't Joe ever get tired of his wife's continued sulkiness?"

"I think not. He says when she's good natured she sings."

"He claims his wife was intractable, your lordship, so he beat her into subjection with a golf club."

"In how many strokes?" asked the judge.

Friend (visiting hospital patient)—Do you know, old man, that's a swell looking nurse you've got.

I hadn't noticed.

Good Lord! I had no idea you were so sick.

"Are you really a bank examiner, Mr. Tompkins?" asked the hostess.

"Yes, madam, I happen to be."

"Then I hope you will have time to examine baby's bank. No matter how much we shake it, nothing will come out of it."

"So Blanche is going to marry the young man who saved her from drowning."

"So I understand."

"But is she sure he is able to support her in good style?"

"Oh, yes. She looked him up in Bradstreet before she fell in."

"I don't know whether this is a good story or not," said the new reporter, "but the Methodists, Baptists, Presbyterians, Episcopalians and Universalists are asking for funds for the new church buildings."

"Fine," exclaimed the city editor. "Write a column on it and we'll call it 'Sects Appeal.'"

A country weekly editor came home one night to supper radiant.

"You've had some good luck haven't you?" his wife asked.

"Good luck!" and the editor laughed for joy. "I should say I have had good luck. Elder Elderberry, who hasn't paid his subscription for sixteen years, came in and stopped his paper."

It was after the opera. The expensively dressed woman approached the broad shouldered man.

"If I am not mistaken," she said, "I have the honor of speaking to the renowned basso, have I not?"

He felt flattered. "And what can I do for you, madame?" he asked.

"I can't find my car," she answered, pleasantly. "Would you be so kind as to call out 'Charlie' at the top of your voice?"

Lucy sure is a nice girl.

Yeh, so nice that when she dreams of auto rides, she walks in her sleep.

Grace: Walter is mine! You keep your hands off!

Verna: It would be better if you said that to Walter.

"Madame, do you mind if I smoke?"

"Oh, dear me, no. I don't give a damn if you burst out in flames!—Gimme a light!"

He: My girl is 99 and 44-100 per cent pure.

She: What's the other 56-100?

He: Her mind.

First Good Little Girl: And you say there are three reasons why you don't like Archie?

Second Child: Yes, I simply can't stand him, I simply can't stand him, I simply can't stand him.

Barber (to regular customer): "I made a terrible mistake today while I was shaving a fellow."

Regular Customer: "What did you do; cut him?"

Barber: "No, that wouldn't have mattered so much; I cut myself."

Satan: Cut the comedy! Every furnace is going full blast, and you shivering.

Sinner: S-say, you do-o-on't know the woman tha-at caused m-y-y being here!

"Mama, you've got an awful big mouth, haven't you?"

"Why, I don't think so, dear; what makes you ask?"

"Cause I heard pop tell my new nurse that you swallowed everything!"

I'm hard-boiled. See? I sleep on a bed of cactus. I sandpaper de dirt off me mug. I picks me teeth wid a crowbar. I uses resin fer chewin' gum. I drinks tobasco sauce. I looks holes through steel. I'd go out an' paint the town red right now, but me wife might get mad.

"Are you going to vote for prohibition?"

"I am," answered Uncle Bill Bottletop.

"Do you practice it?"

"I try to. But prohibition is like music. It often takes a heap of practice before you get anywhere near perfect."

BITURINE

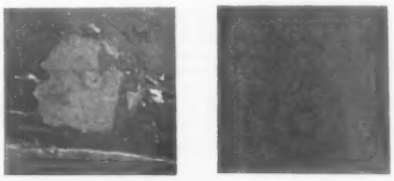
Permanent Protection against Pipe Line Corrosion

Photo below shows the application of Biturine Enamel to The Prairie Pipe Line Company's line referred to in the text of this advertisement, and indicates the ease and speed with which Biturine Enamel is applied, with unskilled labor.

Photo below shows how the bottom of the line is inspected for flaws. When properly applied Biturine Enamel presents a smooth, unbroken surface, tough but not brittle, which will not chip off.

Biturine Enamel has been used successfully for more than 18 years by leading oil and gas industry pipe line operators for preventing corrosion due to soil acids, alkalis and electrolysis.

Biturine Enamel is the result of more than twenty-five years of experience in the manufacture of bituminous coatings. Biturine Enamel's permanent protection results from the use of the highest grade raw material obtainable and from the care exercised in its manufacture. Biturine Enamel has successfully met the worst soil conditions without failure after years of service on hundreds of miles of pipe lines throughout the country. Biturine Enamel is applied hot over an unusually adhesive primer which bonds the enamel and the metal, rendering pipe lines absolutely impervious to corrosive elements.



Why Biturine stands up for years in pipe line service under all soil conditions as indicated by the test above, which shows that ordinary coatings (left) will shatter and fail while Biturine Enamel (right) "stands up" unaffected under the approved Navy Test for bituminous coatings

A growing realization of the importance of the proper pipe line corrosion preventive is indicated by the steadily increasing demand for Biturine Enamel on new lines now being laid and is further emphasized by the fact that many old lines are being taken up, for reconditioning with Biturine Enamel. Biturine Enamel is being used to recondition the Prairie Pipe Line Company's line illustrated in the photographs. A handbook dealing with the findings of our research staff is available to all who are interested in reducing pipe line maintenance through the elimination of corrosion.

HILL, HUBBELL & COMPANY

Manufacturers of

Highest Grade Oil Industry Paints and Pipe Line Coatings

Factories at SAN FRANCISCO and TULSA

District Offices:

SAN FRANCISCO
LOS ANGELES
SEATTLE
TULSA
HOUSTON
PORTLAND
NEW YORK CITY
BALTIMORE

Say you saw it in The OIL WEEKLY

Gulf Refining Company

OKLAHOMA
TEXAS
LOUISIANA

Refiners of PETROLEUM

GASOLINE
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NAPHTHA
GAS OILS
PARAFFINE WAX
PETROLEUM COKE
FUEL OIL
LUBRICATING OILS
CYLINDER
ENGINE
CORDAGE

Red and Pale Paraffine Oils

General Sales Offices: PITTSBURGH, PA.

District Sales Offices:
NEW YORK, HOUSTON, ATLANTA, BOSTON, NEW ORLEANS
PHILADELPHIA, LOUISVILLE

Ocean Terminals:

Boston (Beverly), Mass.
Providence, R. I.
New York Harbor (Bayonne, N.J.)
Jacksonville, Fla.
Port Tampa, Fla.
Mobile (Magazine Point, Ala.)
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

In the Oil Field this Butler *Ready-Made* STEEL structure is in use as a water softener and salt storage building.

THE BIG LAKE OIL Company owns this Butler *Ready-Made* Steel Building. It is located four miles from Texon, Texas.

Previously, this structure was used as a warehouse at Texon. The fact that Butler Buildings may be dismantled, moved to any desirable location and re-erected with practically 100% salvage is a big advantage, especially in the oil fields.

This building is 24′x50′x8′. It has a 50,000-gallon capacity water softener in it. The water is used for the drilling camp.

Another big feature that is so desirable in the oil fields, as well as elsewhere, is that Butler Buildings are non-combustible. They are made of 24 gage galvanized steel with deeply drawn paneled corrugations. These corrugations are *wider* and *deeper* than mill rolled corrugations. They add stiffness and strength to Butler Buildings.

The sheets are bolted together and to a steel frame with galvanized bolts.

As a boiler house, compressor house, warehouse, belt house, bunk house, as an air lift plant, etc., Butler Buildings are most desirable. These all-steel structures are used widely in the oil fields. They are located far up in Wyoming as well as way down in New Mexico. They are adaptable and convenient for oil field use anywhere.

What kind of building do you have in mind? Write for quotations either f. o. b. plant or erected. An illustrated catalog showing how Bntler Buildings are used right in the oil fields will be sent to you.

These reliable dealers handle Butler *Ready-Made* Steel Buildings.

M. & V. Tank Co., at Wichita Falls, Olney, Nocona, Cross Plains, Albany, Cisco, Isom, and Brownwood, Texas.

Drane-Humphrey Co., at San Angelo, Big Lake, Pyote and McCamey, Texas, and Roswell, New Mexico.

Drane Tank Co., at Tulsa, Holdenville, Seminole, Hallett and Shawnee, Oklahoma; Eldorado and Madison, Kansas.

M. A. Trimmer at Blackwell, Oklahoma, and Oxford, Kansas.

Keyes-Butler Tank Co., at Casper and Cody, Wyoming. Thomas Moran at Oil City, Shreveport and Georgetown, Louisiana.

Edward J. Baker & Co., 10 S. LaSalle St., Chicago, Ill.

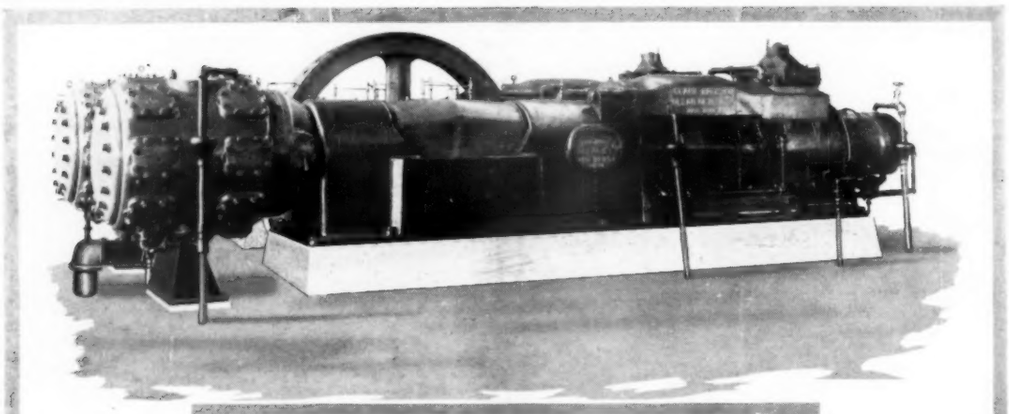
* * *

Butler Products include: Ready-Made Steel Buildings, Cans, Funnels, Buckets, Measuring Pumps, Truck Tanks, Underground Tanks, Storage Tanks, Bolted Tanks, Etc. Also pipe that can be used as conduit, double well casing or in other ways.

TRADE STEEL BUTLER PRODUCTS MARK

Butler Manufacturing Company

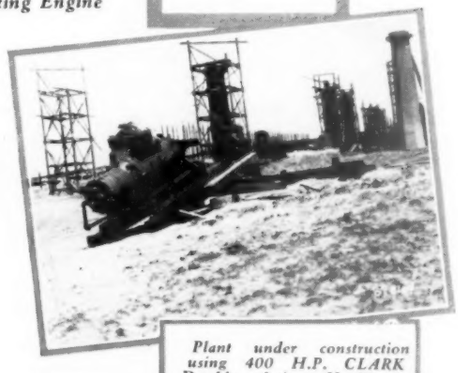
Kansas City, Mo. Minneapolis, Minn.



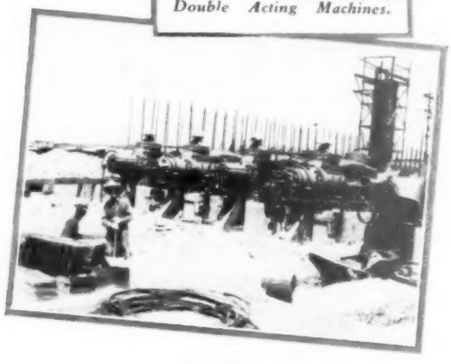
Side view of 400 H.P. CLARK Double Acting Engine

Alert Operators are taking note of the Revolutionary Savings effected with~

CLARK *Double Acting* GAS ENGINES



Plant under construction using 400 H.P. CLARK Double Acting Machines.



The CLARK Double Acting Engine has aroused intense interest because it effects *revolutionary savings in the investment cost per H.P. for engine, foundation, freight, hauling, buildings, piping, etc.* By securing a driving impulse in both directions of crosshead travel for every revolution, this engine delivers twice as much power without increasing the pressure on the crank and crosshead pins, with about the same floor space, and with only a small increase in the weight of the engine. There are no piston rods in the hot combustion cylinder space. Built on the famous CLARK "Super 2" Cycle principle, this engine retains 2-cycle simplicity and durability, yet gives the fuel economy of the most efficient 4-cycle engine. It is made in 200 H.P. Single and 400 H.P. Twin types.

The many advantages of the CLARK Double Acting Gas Engine are obvious. Ask for detailed particulars of design and performance. Clark Bros. Company, Olean, N. Y. Branches and Warehouses: 125 W. First St., Tulsa; MacCamey and Sweetwater, Texas; and Artesia, N. M. California Branch: Smith Booth, Usher Company, 228 S. Central Ave., Los Angeles, and 50 Fremont St., San Francisco.

Clark Bros. Co. OLEAN N.Y.

CLARK

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